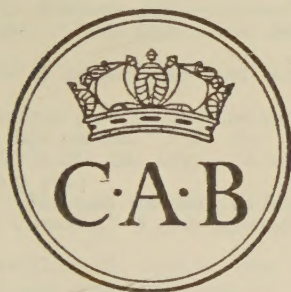


HELMINTHOLOGICAL ABSTRACTS

incorporating
BIBLIOGRAPHY OF HELMINTHOLOGY
COMPILED FROM WORLD LITERATURE OF 1950



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HELMINTHOLOGICAL ABSTRACTS

INCORPORATING BIBLIOGRAPHY OF HELMINTHOLOGY

FOR THE YEAR 1950

Vol. 19, Part 5

442—Accademia Medica. Turin.

- *a. CAFFARATTI, E., 1950.—“A proposito di due casi di ascaridiasi intestinali.” 65 (12), 543–552.

443—Acta Medica Italica di Malattie Infettive e Parassitarie.

- a. ANDRINI, F., 1950.—“Comportamento del potere complementare nell'anchilostomiasi.” 5 (6), 153.
b. ANDRINI, F., 1950.—“La lipasemia nella infestazione da anchilostoma.” 5 (6), 153–154.
c. ANDRINI, F., 1950.—“La diastasemia nell'infestazione da anchilostoma.” 5 (6), 154–156.
d. SERVINO, V., 1950.—“La steatorrea nell'anchilostomiasi.” 5 (6), 156.
e. PARONI, F., 1950.—“La duodenite nell'anchilostomiasi (studio radiologico).” 5 (6), 156–157.
f. MAGISTRIS, L. DE, 1950.—“Sulla distribuzione dell'anchilostomiasi nel Comune di Napoli.” 5 (6), 157–158.
g. ALLEGRA, G., 1950.—“Il comportamento del ferro serico negli anchilostomiasici.” 5 (6), 158–162.
h. CRINO, R., 1950.—“Anemia grave da anchilostoma, accompagnantesi a gravi manifestazioni emorragiche della cute e delle mucose.” 5 (6), 162.
i. BELLONI, G. & MUZZOLINI, M., 1950.—“L'anchilostomiasi nel suburbio di Padova.” 5 (6), 162–168. [Discussion p. 169.]
j. BARTONE, L., 1950.—“Sindrome emottoica da bilharziosi polmonare. Considerazioni su un caso clinico osservato in Cirenaica.” 5 (10), 341–344. [English, French & German summaries p. 344.]
k. BOSCARDI, F. & QUAGLIA, S., 1950.—“Caso non comune di echinococcosi secondaria multipla del polmone con esito in guarigione spontea.” 5 (11), 378–381.
l. BOSCARDI, F., 1950.—“Particolarità sull'infestazione da *Schistosoma haematobium* nel mollusco ospite intermedio.” 5 (11), 381.
m. MEDULLA, C., 1950.—“Considerazioni su alquanti casi di anchilostomiasi repertati a Roma tra il 1946 ed il 1949.” 5 (11), 383–384.
n. REITANO, U. & FONDACARO, A., 1950.—“Sindrome di Schönlein-Henoch da ascaridi.” 5 (11), 388–392. [English, French & German summaries p. 392.]

(443f) There were 174 known cases of hookworm disease in the six districts of Naples between the years 1931 and 1948. Of these, 99 cases were in the marshy district of Ponticelli, 44 in Barra, 30 [?28] in the industrial zone of Poggioreale extending into a market gardening area, and one case each in S. Lorenzo, S. Giovanni and Chiaia. The greatest number of cases was reported in the years 1933–36; since 1941 only a few isolated cases have been recorded.

P.M.P.

(443i) Hookworm disease in the suburbs of Padua has decreased in the industrial population and now affects almost exclusively those engaged in market gardening. Of 330 examinations made, 80 were positive, including 11 clinical cases; 54% of all cases were in the male and 46% in the female population. Complete elimination of the worms was achieved with 4 c.c. to 5 c.c. of tetrachlorethylene administered on two consecutive days.

P.M.B.

* Titles so marked throughout this number have not been seen in the original.

(443i) A case of pulmonary schistosomiasis haematobia contracted by a native of Cyrenaica in the Derna Wadi was cured by antimonial therapy. The pathological anatomy is discussed.
R.T.L.

(443l) Boscardi observed that *Bulinus contortus* and *Physopsis africana*, exposed on separate occasions to miracidia of *Schistosoma haematobium*, developed plural infections of sporocysts showing different degrees of development. This is considered contrary to the opinion of Brumpt and others, based on the fact that mice exposed to cercariae from a single snail develop worms of one sex or'y, generally male. It is suggested that unisexual infections are to be attributed to an immune condition of the definitive host operating particularly against the female worms.
E.M.S.

(443m) Eleven cases of hookworm infection in Italian soldiers were treated between 1946 and 1949 in a military hospital in Rome. Of these, six had formerly worked on the land, one had been a prisoner in Kenya and four were variously employed. Three cases were also infected with *Ascaris lumbricoides* and *Trichuris trichiura*, and one with *Strongyloides stercoralis* and *T. trichiura*.
P.M.B.

(443n) Treatment with various substances, including vitamins and antihistamines, was unsuccessful in a boy ten years of age who presented Schönlein-Henoch's syndrome. The characteristic haemorrhagic urticarial rash was accompanied by slight fever and severe abdominal colic. After the spontaneous expulsion of several *Ascaris lumbricoides*, 7 gm. of extract of male fern removed 42 adult worms, accompanied by a further appearance of the haemorrhagic rash; a ten-day course of santonin, 0.1 gm. three times daily, was given a week later. The clinical symptoms and *Ascaris* ova in the faeces disappeared rapidly. Skin tests with the perienteric fluid of *Ascaris* immediately prior to the santonin course produced an allergic reaction similar to the original rash, but this did not occur in tests on two non-infected persons.
P.M.B.

444—Acta Medica Philippina.

- a. RECIO, P. M. & CRUZ, P. T., 1950.—"Proctoscopic diagnosis of rectal schistosomiasis." 6 (4), 365-369.
- b. TUBANGUI, M., CABRERA, B. D. & YOGORE, M. G., 1950.—"Studies on the life cycle of the human lung fluke (*Paragonimus*) in the Philippines: a preliminary report." 6 (4), 371-372.
- c. RECIO, P. M., 1950.—"Rectal schistosomiasis." 7 (2), 101-110.

(444a) Recio & Cruz describe in detail a method of proctoscopic biopsy for the diagnosis of schistosomiasis japonica. Although so far this has only been carried out on a small number of cases they believe that it will be a far more accurate method than that of faecal examination. Routine proctoscopies were performed on all patients admitted to the Philippine General Hospital from endemic areas. Eggs were found by biopsy in all cases in which they were present in the faeces and in two cases in which eggs could not be demonstrated by faecal examination. They found, contrary to the observations of Faust *et al.*, that there was strikingly little cellular reaction in the rectal tissue round the eggs and they were unable to find pseudo-abscesses or tubercles as reported by these authors.
S.W.

(444b) Of 1,986 specimens of the mollusc *Brotia asperata* collected from a mountain stream in Barrio Mabini, Casiguran, Sorsogon in the Philippines, 0.1% were found to be infected with larval stages of *Paragonimus* and the river crabs *Parathelphusa* (*Barythelphusa*) *mistio* were heavily infected with the metacercariae.
R.T.L.

445—Acta Neurochirurgica. Vienna.

- a. SCHÜKRÜ-AKSEL, I. & DILEK, H., 1950.—"Ein Fall von Gehirn-Cysticercus." 1 (2/3), 280-282. [English, French, Italian & Spanish summaries p. 282.]

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446—Acta Tropica. Basle.

- a. THÉODORIDÈS, J., 1950.—“The parasitological, medical and veterinary importance of Coleoptera.” 7 (1), 47–60. [German summary p. 60.]
- b. FAUST, E. C., 1950.—“Diseases of domestic animals and human welfare.” 7 (4), 289–297. [French & German summaries p. 297.]

(446a) Théodoridès briefly summarizes, from the literature, the role of the Coleoptera as vectors of pathogenic bacteria and as intermediate hosts of helminths which affect man and domesticated animals. R.T.L.

(446b) Faust reviews the effects on their animal hosts of the more important types of disease caused by parasitic agents. The internal parasites of domesticated animals are responsible for an estimated reduction of 25% in the animal food of man, and domestic stock may also act as reservoirs of certain human infections. He mentions that 1% of all swine federally inspected in slaughterhouses in the U.S.A. are condemned on account of icterus due to *Ascaris* invading and blocking the bile ducts. R.T.L.

447—Acta Zoologica Lilloana. Tucumán.

- a. SCHUURMANS STEKHOVEN, Jr., J. H., 1950.—“Nemátodos parasitarios del Chaco paraguay y de Argentina del Museo de Estocolmo.” 9, 325–345. [French summary p. 325.]
- b. SCHUURMANS STEKHOVEN, Jr., J. H., 1950.—“*Alloionema appendiculatum* Schneider 1859. (Nemátodo parasitario de *Arion ater* L.).” 9, 481–485. [French summary p. 481.]

(447a) A small collection of nematode parasites from the Chaco territory of Paraguay and from Tierra del Fuego (Argentina) contained eleven species. *Aspidodera fasciata* is recorded from Paraguay for the first time. *Cruzia boliviana* is more fully described and figured. *C. fuelleborni* Khalil & Vogelsang, 1930 is made type of a new genus *Schizobucca* which differs from *Cruzia* in having interlabial fissures and a larger intestinal diverticulum. A single specimen provisionally named *Contracaecum macronectidis* n.sp. from *Macronectes giganteus*, *Ophidascaris crassilabiata* n.sp. from *Notiopsar cinereus* and *Aprocta colaptidis* n.sp. from *Xiphocolaptes* sp. are described and figured [but not differentiated from other species]. In *Metascaris zenaidurae* n.g., n.sp. from the body-cavity of *Zenaidura auriculata virgata* the labiae are very detached with strong incisions at their base. There are no interlabiae and the oesophagus has a bulb. The author had considerable difficulty in deciding if his new genus falls into Ascaroidea or Oxyuroidea. Other species recorded are: *Turgida turgida* from *Didelphis* sp., *Physaloptera retusa* from *Tupinambis teguixin*, *Dicheilonema rheae* from *Rhea americana* and *Monopetalonema alcedinis* from *Ceryle torquata*. R.T.L.

(447b) Schuurmans Stekhoven jr. redescribes and figures the male and female larval forms of *Alloionema appendiculatum*, parasitic in *Arion ater*. R.T.L.

448—Advances in Genetics. New York.

- a. SUOMALAINEN, E., 1950.—“Parthenogenesis in animals.” 3, 193–253.

(448a) In this paper on parthenogenesis Suomalainen briefly mentions the parthenogenetic nematodes *Rhabditis monhystra* and some thelytokous *Rhabditis* species, in which the diploid chromosome number is restored by both halves of the divided chromosomes remaining in the same nucleus at the second meiotic division. He is of the opinion that reproduction in the larval stages of the digenetic trematodes, e.g. *Fasciola hepatica*, is by apomictic parthenogenesis. S.W.

449—Ärztliche Wochenschrift. Berlin.

- a. KNOTHE, H. & SCHMIDT, H., 1950.—“Untersuchungen über die Verbreitung von Askariden in Schleswig-Holstein.” 5 (31), 581–584.

- b. WACHSMUTH, R., 1950.—"Beiträge zur Enterobiasis vermicularis (Oxyuriasis). I. Behandlung mit Phenothiazin." 5 (41), 810-812.
- c. WACHSMUTH, R., 1950.—"Beiträge zur Enterobiasis vermicularis (Oxyuriasis). II. Moderne Therapie der Relapse." 5 (46), 921-923.

(449a) Knothe & Schmidt report on surveys made in Schleswig-Holstein to determine the incidence of human *Ascaris* infection. Of 2,856 faecal specimens from both urban and rural areas examined during July-December 1949, 326 (11.41%) were positive for *Ascaris*. A further series of 1,605 examined during the period January 1948 to May 1949 revealed 238 (14.82%) positive cases: the peak occurred from October to February. Of 1,501 school-children at Flensburg 96 (6.39%) were infected. Figures are given for two refugee camps: one at Kiel had a 10.48% infection rate (15 out of 143), the other near Lübeck showed 1.4% infected (4 out of 283). Of a series of 2,024 post-mortems carried out at Kiel 53 were positive: at Lübeck the figures were 89 out of 2,037. Figures for *Trichuris* (varying between 5.39% and 0.69%), for *Taenia saginata* (from 0.19 to 0.93%) and for mixed infections are also given.

A.E.F.

(449b) Wachsmuth reviews the literature on the use of phenothiazine as an anthelmintic in human medicine with special reference to enterobiasis. The German phenothiazine preparation "Contaverm" is recommended as being effective and free from side effects: children take it without difficulty.

A.E.F.

(449c) Wachsmuth recommends the use of "Contaverm" (a phenothiazine preparation) suppositories to prevent "relapses" (as defined by Schüffner) after treatment for enterobiasis. After the usual two-day course of phenothiazine a suppository is administered after each defaecation over a period of three weeks.

A.E.F.

450—African Violet Magazine.

- *a. MILLER, N. C. & MILLER, M. J., 1950.—"Nematodes and parathion." 3 (4), 14-22; 4, 33-41.

451—Afrique Française Chirurgicale.

- a. COSTANTINI, H., 1950.—"Le kyste hydatique peut détruire le tissu hépatique." Year 1950, No. 4, pp. 135-137.
- b. LOMBARD, P., 1950.—"Atrophie hépatique consécutive au développement d'un volumineux kyste hydatique du foie." Year 1950, No. 4, pp. 167-168.
- c. COSTANTINI, H., 1950.—"Aspects modernes des kystes hydatidiques du foie." Year 1950, No. 5, pp. 175-180.
- d. CURTILLET, BLAIN & HOUEL, 1950.—"Echinococcose hépatique et pulmonaire multiple (8 kystes pulmonaires—9 kystes hépatiques). Guérison complète des kystes pulmonaires par vomiques et des kystes hépatiques en deux temps opératoires." Year 1950, No. 5, pp. 197-199.
- e. BOURGEON, R., 1950.—"Enorme kyste hydatique du foie. Marsupialisation première—kystectomie secondaire." Year 1950, No. 6, pp. 260-262.

452—Agricoltura Siciliana.

- *a. BERTINI, G. C., 1950.—[Root eelworms in Sicily.] 5, 3-6. [In Italian.]
- *b. LUTRI, I., 1950.—[Root eelworms in Sicily.] 5, 56-57. [In Italian.]

453—Agricoltura. Louvain.

- a. SCHEERLINCK, H., 1950.—"De aaltjes." 48 (3), 116-126. [French summary pp. 124-126.]

(453a) This is a general article on plant parasitic nematodes. The three groups, leaf eelworms (Aphelenchinae), stem eelworms (Tylenchinae) and root eelworms (Heteroderinae) are considered: the most important species are mentioned and descriptions are given of the damage caused by them. Life-histories are briefly given and control methods outlined. M.T.F.

454—Agricultura Tropical. Bogotá.

- a. CONTE, J., 1950.—“La fenotiazina en el parasitismo intestinal.” 6 (7), 59-60.

(454a) In view of the variable toxicity of phenothiazine to different types of animals and even of individuals, especially in the case of horses, Conte recommends small, gradual doses of the drug rather than a single larger dose. In increasing order of sensitivity to phenothiazine he places dogs, birds, rabbits, goats, sheep, cattle, pigs, horses and man. P.M.B.

455—Agricultural Chemicals. Baltimore.

- a. TARJAN, A. C., 1950.—“Parathion—its action against the meadow nematode.” 5 (12), 32-34, 95, 97.

(455a) Tarjan describes a series of green-house and field tests on the efficacy of various concentrations of parathion (as a 25% wettable powder) against *Pratylenchus* sp. in English boxwood (*Buxus sempervirens suffruticosa*). In green-house tests on plants 5 and 10 months old he found 2.5 gm. of parathion per cubic foot of soil to be the most effective dose rate: in field tests on 14-year-old plants 1 lb., 1½ lb. or 2 lb. of parathion were sprinkled over an area of 2 ft. radius round each plant, light soil was sifted over the treated area and 3 gal. of water applied. Root samples were taken 2 months later and the percentage increase or decrease in eelworm population calculated. Treatment at the rate of 1 lb. or 1½ lb. appeared to be the most effective. S.W.

456—Agricultural Progress. London.

- a. MILLER, W. C., 1950.—“Grazing pastures as factors in the spread of parasitic disease in animals.” 25 (2), 77-84.

(456a) Reviewing the relation of grazing pastures to the spread of helminthiasis in farm stock, Miller emphasizes the variability of parasitism in different animals within a flock, and in one flock at different seasons. It is important to recognize quickly and to assess the features favourable to the host and those favourable to the parasite. Among the factors considered are the state of nutrition and age of the host, the type of grassland, climatic conditions, rate of stocking per acre, strip grazing and alternation of grazing and resting pastures. R.T.L.

457—Agriculture and Animal Husbandry. Lucknow.

- a. KAYESES, 1950.—“Some helminth parasites and their control.” 1 (3), 78-82.

(457a) This is an informative popular article on the modes of spread and control of the commoner helminths of domesticated animals in India. R.T.L.

458—Agriculture Pakistan.

- a. MINETT, F. C., 1950.—“Livestock diseases and pests in Pakistan.” 1 (3/4), 150-155.

(458a) Heavy losses among livestock in Pakistan are caused by nematodes, hydatid, amphistomes, schistosomes and liver-fluke. The extension of the canal irrigation system has led to an increase in the infected areas. P.M.B.

459—Algérie Médicale.

- a. AUBRY, G., BOULARD, C., MASSONAT, J. & ZEVACO, 1950.—“Un cas d'échinococcose hétérotopique du péritoine avec volumineuse vésicule libre.” 54 (2), 89-91.
b. THIODET, J., FOURRIER, A., CHEVROT, L. & MASSONNAT, J., 1950.—“Echinococcose pulmonaire et ostéopathie hypertrophique de Pierre Marie.” 54 (7), 355-360.

460—Allgemeine Fischereizeitung.

- *a. NEUHAUS, 1950.—“Die ‘Wasserhibbel’, eine eigentümliche Hauterkrankung der Karpfenzüchter im Aichgrund.” 75 (5), 121-123.

(460a) During the months from April to October and especially in July those employed in the breeding of carp in Aichgrund (Franconia) frequently suffer from an itchy rash which is due to the invasion of the skin by furcocercous cercariae emitted by *Limnaea stagnalis*. The duck is said to be the definitive host of the adult fluke [which is not named]. [Based on an abstract in *Biol. Abs.*, 1952, 26 (8), No. 22938.] R.T.L.

461—Almanaque del Ministerio de Agricultura de la Nación. Buenos Aires.

- *a. COLLADO, L., 1950.—“Tratamiento de la tenia en los ovinos.” 25, 116.
*b. MORENO, A. F., 1950.—“La anguilulosis en la horticultura.” 25, 125-128.

462—Amatus Lusitanus. Lisbon.

- a. COSTA, J. C. DA, 1950.—“Quisto hidático solitário calcificado do grande epiploon.” 7 (8), 346-353. [English & French summaries pp. 352-353.]

463—American Journal of Digestive Diseases and Nutrition.

- a. EICHBAUM, F. W., KOCH-WESER, D. & LEAO, A. T., 1950.—“Activity of cashew (*Anacardium occidentale*) nutshell oil in human ancylostomiasis.” 17 (11), 370-371.

(463a) Cashew nutshell oil, when given in an average total dose of 13 gm. divided into three single doses at intervals of two weeks, completely cured 14 out of 22 cases of ancylostomiasis in man in Brazil. In the 8 not cured there was a reduction of 78% to 99% in the number of ova eliminated. No toxic symptoms were observed. The oil had a mild purgative effect. R.T.L.

464—American Journal of the Medical Sciences.

- a. HAMRICK, Jr., L. W. CLEVE, E. A. & CARSON, R. P., 1950.—“Chronic schistosomiasis japonica: diagnosis by rectal biopsy with description of sigmoidoscopic abnormalities.” 220 (4), 393-399.

(464a) Although there was no clinical evidence of acute schistosomiasis japonica in 80 soldiers who had resided in endemic areas, 30 of them were positive to rectal biopsy of the second valve of Houston. Only 26.4% of these had eggs in the faeces. In 70% abnormalities, viz., sub-mucosal nodules, polypoids, red granular areas, diffuse thickening of the bowel wall and dilated venules, were observed by sigmoidoscope. R.T.L.

465—American Journal of Public Health.

- a. KASPER, J. A., COPE, E. J., LYON, M. & WHITE, M., 1950.—“Report on the results of examinations for intestinal parasites.” 40 (11), 1395-1397.

(465a) During 1946, faecal specimens of 689 inhabitants of the Detroit area showed incidences as follows: *Ascaris* 0.2%, *Enterobius* 0.4%, *Strongyloides* 0.1%, *Taenia saginata* 0.1%, *Diphyllobothrium latum* 0.7%, other tapeworms 0.2%. In 1948 and 1949 with the influx of displaced persons and refugees from overseas, the percentages rose. In 1948 they were (in 222 persons): *Ascaris* 6.7%, *Enterobius* 0.4%, *Necator* 0.9%, *Strongyloides* 0.4%, *Trichuris* 7.6%, *Clonorchis* or *Metagonimus* 8.1%. In 1949 they were (in 280 persons): *Ascaris* 3.2%, *Enterobius* 0.5%, *Necator* 0.3%, *Strongyloides* 0.5%, *Trichuris* 9.6%, *Clonorchis* or *Metagonimus* 5%. In the authors' opinion there was a direct relationship between the increased incidences and the increased immigration. The percentage of persons first found positive for ova was 59.3% at the first stool examination, 17.6% at the second examination, 12% at the third examination and 10.6% at the fourth to tenth examination. R.T.L.

466—American Journal of Roentgenology and Radium Therapy.

- a. SAMUEL, E., 1950.—"Roentgenology of parasitic calcification." 63 (4), 512-522.
- b. PERKINS, C. W., 1950.—"Large hydatid cyst of the liver. Case report." 64 (3), 473-474.

(466a) Twenty X-ray photographs are reproduced to illustrate the different appearances of calcified helminths. A roentgenological classification is suggested, viz., (i) calcification of the adult (*Drancunculus*, *Loa*, *Onchocerca*), (ii) calcification of the cystic stage (*Cysticercus*, *Trichina*, hydatid), (iii) calcification in flukes (*Paragonimus*), (iv) calcification in larvae (*Bilharzia* spp.). It is sometimes necessary to differentiate guinea-worms from calcified hemangiomas, calcified bursae and tattoo markings. [On p. 518 *Trichinella spiralis* is erroneously stated to be "the encysted stage of the beef tapeworm *Taenia saginata*".]

R.T.L.

467—Anadolu Klinigi.

- a. TÜRKÖGLÜ, N., 1950.—"Sol parametriumda bir hidatik kist vak'asi." [A case of hydatid in the parametrium.] 16 (3), 114-115.

468—Anais do Instituto de Medicina Tropical. Lisbon.

- a. FIESCHI, A., 1950.—"Anemia da anchilostoma." 7, Suplemento pp. 167-175.

(468a) Hookworm anaemia does not arise from hyperhaemolysis but is myelogenic. As it is only present in a small proportion of those infected with hookworm it may be concluded that an anaemia can be established, to some extent independently, either through the parasites or concomitant causes. With the expulsion of worms there is a slight increase of red corpuscles without a corresponding rise in haemoglobin. That the anaemia arises from iron deficiency is demonstrated by the rapid response to iron therapy. Once the iron deficiency has started it tends to become more acute. The use of mass prophylactic iron treatment is recommended.

P.M.B.

469—Anais Paulistas de Medicina e Cirurgia.

- a. PESSÔA, S. B., 1950.—"Alguns dados sobre a incidência da filaria *Wuchereria bancrofti*, na cidade de Salvador." 60 (3), 189. [Discussion p. 189.]
- b. COUTINHO, J. DE O., 1950.—"Índices de infecção natural dos planorbídeos pelas cercárias do *Schistosoma mansoni* na cidade de Salvador." 60 (3), 190. [Discussion p. 190.]
- c. ALENCAR, J. E. DE, 1950.—"Considerações sobre a esquistossomose no Ceará." 60 (3), 190, 192-193.

(469a) [This is an abstract of a paper which appeared in *Hospital, Rio de Janeiro*, 1950, 37, 593-598. For abstract see *Helm. Abs.*, 19, No. 188a.]

(469b) In the city of Bahia, Brazil, Coutinho found 58 out of 74 *Australorbis glabratus* and *A. olivaceus* naturally infected with *Schistosoma mansoni*, but in 20,981 specimens the infection averaged only 3%. The infection rate in a number of snails kept in captivity dropped from 7% to 3.5% in three days. Discussing these results, Pessôa comments that probably 50% of the population of Bahia are infected with schistosomiasis. Replying to a question by Dacio Franco, Coutinho states that schistosome cercariae may be distinguished from other strigeid cercariae by the position which they assume in the water.

P.M.B.

(469c) This is an abstract of a paper in which Alencar discussed the occurrence of schistosomiasis in the Ceará district of Brazil, analysing the factors presented by various investigators, including himself, since 1931. He emphasizes the epidemiological importance of the conditions at Redenção and at Pacoti which are irrigated sugar-cane growing areas where infection occurred in 62.2% and 31.4% of the population respectively.

P.M.B.

470—Anales de la Facultad de Veterinaria de la Universidad de Madrid.

- a. SANZ, F., TARAZONA, J. M. & CASTELLÁ BERTRÁN, E., 1950.—“Acción del fluoruro de sodio en las verminosis de équidos. I. Acción sobre estrongilos y ascárides.” 2, 152-162. [English, French & German summaries pp. 160-161.]

(470a) Sodium fluoride was administered to horses, mules and a donkey with natural infestations of strongyles and ascarids. Doses of 10-20 gm. were moderately effective. Divided dosage was often rendered ineffectual by inappetence following the first dose. Doses of 30-50 gm. produced persistent diarrhoea, and in one animal oedema of the prepuce and paraphimosis; these disappeared after a few days of symptomatic treatment. The treatment is not considered especially valuable, but merits further investigation. E.M.S.

471—Anales del Instituto de Biología. Mexico.

- a. CABALLERO y C., E. & BRAVO HOLLIS, M., 1950.—“Tremátodos de los murciélagos de México. VI. Descripción de una nueva especie de *Limatulum* (Trematoda: Lecithodendriidae).” 21 (2), 345-350.

(471a) *Limatulum aberrans* n.sp. from the bat, *Macrotus mexicanus mexicanus*, differs from other species of the genus in the position of the genital pore, which is placed laterally and level with the end of the intestinal caeca. It occupies an intermediate position between *Limatulum* and *Langeronia*. The authors are of the opinion that *Limatulum diminutum* does not belong to the genus and that *L. solitarium* is a synonym of *L. limatulum*. P.M.B.

472—Anales de Medicina. Barcelona.

- a. ROVIRA ROSELL, J., 1950.—“Quiste hidatídico de riñón.” 37 (417), 137-140.

473—Anales de Medicina Pública. Sante Fé.

- *a. NÁJERA, L. E., 1950.—“El soporte biológico del *Echinococcus granulosus* y la epidemiología de la hidatidosis.” 2 (3/4), 571-593.

474—Anatomical Record.

- †a. DOUGHERTY, E. C., 1950.—“Some sources and characteristics of the heat-labile nutritional requirement(s) of the nematode, *Rhabditis briggsae*.” 108 (3), 514.
 †b. LUYET, B. J. & GEHENIO, P. M., 1950.—“Survival of vinegar 'eels' after congelation in liquid nitrogen.” 108 (3), 544.
 c. FERGUSON, M. S., 1950.—“Life cycle of *Diphyllbothrium latum* (broad fish tapeworm).” [Demonstration to be presented at the 47th Annual Meeting of the American Society of Zoologists, Cleveland, Ohio, December 27-30, 1950.] 108 (3), 546.
 †d. WALTON, A. C., 1950.—“Parasites of the Ranidae (Amphibia). XXI.” 108 (3), 625.
 †e. WALTON, A. C., 1950.—“Parasites of the Ranidae (Amphibia). XXII.” 108 (3), 625-626.
 †f. WALTON, A. C., 1950.—“Parasites of the Polypedatidae (Amphibia).” 108 (3), 626-627.

(474a) Dougherty briefly summarizes other sources of the heat-labile components of fresh chick embryo juice in which *Rhabditis briggsae* can be grown axenically. At least one heat-labile requirement behaves like protein and is designated “factor Rb”. R.T.L.

475—Annales de Dermatologie et de Syphiligraphie.

- a. COSTA, O. G., 1950.—“Larva migrans.” 8e Série, 10 (4), 400-402.

(475a) The aetiology, epidemiology, symptomatology, pathology, complications, differential diagnosis and treatment of larva migrans due to larval nematodes and Oestridae are briefly summarized. R.T.L.

† Abstract of paper to be presented at the 47th Annual Meeting of the American Society of Zoologists, Cleveland, Ohio, December 27-30, 1950.

476—Annales de l'Institut National de la Recherche Agronomique. Série C.
Annales des Épiphyties.

- a. COUTURIER, A., 1950.—"Biologie d'un *Hexamermis*, (Nematodes Mermithidae) parasite des insectes défoliateurs de l'osier." 1 (1), 13-37.
- b. SCHVESTER, D., 1950.—"Sur un nématode du groupe des *Parasitylenchus dispar* Fuchs parasite nouveau du xylebore disparate (*Xyleborus dispar* F.)." 1 (1), 48-53.
- c. HOFFMANN, A., 1950.—"Répertoire analytique des insectes, acariens et nématodes nuisibles aux cultures en France ayant présenté d'intéressantes particularités en 1948." 1 (3), 307-311.
- d. HOFFMANN, A., 1950.—"Répertoire analytique des arthropodes et nématodes nuisibles aux cultures en France ayant présenté d'intéressantes particularités en 1949." 1 (3), 312-316.

(476a) Couturier gives an account of his investigations on the life-history and bio-nomics of a mermithid nematode, *Hexamermis* sp., found infesting a number of insects which feed on the foliage of *Salix fragilis* L. in the Gironde, France. The larvae of the nematode, hatching from eggs laid in the soil, make their way up on to the moist foliage of the willow and there penetrate the skin of the defoliating insect, caterpillar or other stage. Growth within the host's body-cavity proceeds for 4-6 weeks and then the greatly enlarged parasite breaks out and enters the soil. After a further month or so the final moult takes place and the adult state is reached. Copulation with a male *Hexamermis* is essential before egg-laying can begin. Eggs can be laid over several months and there may be two or more copulations. When many larvae penetrate a host they mainly develop into males, but when only one or two parasitize it they become females. T.G.

(476b) Schvester describes a nematode from the body-cavity of *Xyleborus dispar* and, following the taxonomy of Fuchs, assigns it to the group of *Parasitylenchus dispar*. The females measure 0.1-0.2 mm. in diameter and 1.5-3 mm. in length. The mouth has one stylet, the gut is degenerate and no anus has been seen; the whole body-cavity is occupied by the genital organs, and ova and larvae are found in the uterus. When removed from the uterus and put in Ringer's solution the larvae are mobile, 0.1-0.3 mm. long and 0.008-0.01 mm. in diameter, there is a conspicuous buccal stylet and a well defined gut. From Schvester's observations it appears that there is a free-living stage in the life-cycle but this is not yet proved. S.W.

(476c) The following nematodes are reported from various places in France, in some cases doing considerable damage: *Heterodera rostochiensis* on potatoes (this is said to be a first record for France), *Ditylenchus dipsaci* on onions and leeks, *Aphelenchoides ritzemabosi* on chrysanthemums, *Aphelenchoides olesistus* [*Aph. fragariae*] on *Pteris* and *Asplenium*, and *Heterodera marioni* on market garden crops, notably melons and salad crops. J.B.G.

(476d) A further list of parasitic nematodes from parts of France is given: *Anguillulina dipsaci* [*Ditylenchus dipsaci*] on iris, ranunculus, anemone, onion and leek, *Heterodera göttingiana* on pea, *H. rostochiensis* on potato, and *H. marioni* on market garden and floral crops. J.B.G.

477—Annales de Médecine Vétérinaire.

- a. GREGOIRE, C., 1950.—"A propos de quelques parasites des animaux domestiques au Congo Belge." 94 (8), 690-705.

(477a) Gregoire outlines the conditions which favour the development of helminth parasites of domestic animals in the Belgian Congo. He gives brief descriptions and notes the pathogenic role of the helminths found in bovines, sheep, goats, pigs, dogs, poultry and pigeons, based on the findings at approximately 100 post-mortem examinations. Host specificity, association of parasites, reproduction rate and survival, epidemiology, pathogenic action of larvae and acquired immunity are briefly considered. P.M.B.

478—*Annales Medicinæ Internæ Fenniae. Supplementum.*

- a. HUHTALA, A., 1950.—"Über die Verbreitung des breiten und des schmalen Bandwurms in Finnland." 39 (6), 63 pp.
- b. VARTIAINEN, O., 1950.—"The anthelmintic effects of thymol and *p*-cymene. A pharmacological and clinical study, with special consideration of the fish tapeworm disease." 39 (9), 87 pp.

(478a) Huhtala presents a review of the incidence of *Diphyllbothrium latum*, *Taenia solium* and *T. saginata* in Finland. It is estimated that *D. latum* occurs in 20% of the population and the main areas of infection are the great inland seas and northern Finland. The high incidence is ascribed to the prevalence of suitable copepod first intermediaries, the great numbers of fish which act as second intermediaries and the widespread habit of eating lightly salted raw fish. *Taenia solium* infection is considered to have died out in Finland, although *Cysticercus cellulosae* has been sporadically recorded at intervals of several years by meat inspectors. It is estimated that *T. saginata* occurs in one in two thousand of the population. The incidence of *C. bovis* in cattle has considerably decreased during the last twenty years: in 1923–1927, it was found in an average of 0.63% while in 1943–1947 only 0.11% were infected. The paper is illustrated with distribution maps and there are 62 references.

A.E.F.

(478b) This monograph is divided into two sections, viz., a pharmacological part dealing with the general chemical and pharmacological properties of thymol and *p*-cymene and their pharmacological action with special reference to their use as anthelmintics, and a clinical part. On the intestinal parasites of the frog the minimum effective dose of thymol was 0.5–1.0 mg. and of *p*-cymene 3 or 4 mg. The dose of thymol could not be made sufficiently effective without killing the frog but with *p*-cymene it was practicable. The results obtained by earlier investigators from the use of thymol as an anthelmintic in man are quoted. In Vartiainen's own clinical experience neither thymol nor *p*-cymene are effective against *Taenia saginata* or *Ascaris lumbricoides*. Thymol is the drug of choice against *Diphyllbothrium latum* but *p*-cymene cannot be recommended on account of its weak anthelmintic properties.

R.T.L.

479—*Annales Pharmaceutiques Françaises.*

- a. PARIS, R. & RABENORO, C., 1950.—"Sur deux Myrsinacées vermifuges de Madagascar." 8 (5), 380–387.

(479a) Paris & Rabenoro give a botanical and chemical description of two plants, *Maesa emirrensis* and *Embelia barbeyana*, which are used as anthelmintics in Madagascar.

P.M.B.

480—*Annales de la Société Belge de Médecine Tropicale.*

- a. SCHWETZ, J., 1950.—"*Planorbis stanleyi* du Lac Kivu est transmetteur de *Schistosoma mansoni*." 30 (3), 565–568. [Flemish summary p. 568.]
- b. SCHWETZ, J., 1950.—"Quelques essais de traitement de la bilharziose intestinale et de la bilharziose vésicale par le miracil D (nilodin)." 30 (3), 569–583. [Flemish summary p. 582.]
- c. SCHWETZ, J., 1950.—"Sur la transmission de *Schistosoma mansoni* par les planorbes fluviatiles du Congo oriental. (Troisième étude.)" 30 (3), 585–593. [Flemish summary p. 591. Discussion pp. 592–593.]
- d. WANSON, M., COURTOIS, L. & BERVOETS, W., 1950.—"L'extinction des simules de rivières à Léopoldville." 30 (3), 629–637. [Flemish summary p. 636.]
- e. ROYER, P., 1950.—"Un cas de kyste à échinocoques chez un indigène du Katanga." 30 (3), 663–665. [Flemish summary p. 665.]
- f. WANSON, M., 1950.—"Contribution à l'étude de l'onchocercose africaine humaine. (Problèmes de prophylaxie à Léopoldville.)" 30 (4), 667–863.
- g. BIE, P. DE & DELVILLE, J. P., 1950.—"Cancer et bilharziose hépatiques au Katanga. Note préliminaire à propos de quelques cas." 30 (6), 1423–1451. [Flemish summary pp. 1450–1451.]
- h. GEUKENS, 1950.—"Contribution à l'étude des filarioses dans le territoire de Feshi." 30 (6), 1483–1493. [Flemish summary pp. 1490–1491.]
- i. GHYOOT, E., DELVILLE, J. P. & BIE, P. DE, 1950.—"Note à propos d'un cas de bilharziose sans manifestations cliniques avec localisation massive d'oeufs dans le foie." 30 (6), 1495–1498. [Flemish summary pp. 1497–1498.]

- j. SCHOENAERS, F. & GREGOIRE, C., 1950.—"Liste de parasites des animaux domestiques au Congo Belge." 30 (6), 1545-1548. [Flemish summary p. 1548.]
- k. SCHWETZ, J., BAUMANN, H. & FORT, M., 1950.—"Note préliminaire sur *Schistosoma rodhaini* Brumpt." 30 (6), 1549-1551. [Flemish summary p. 1551.]
- l. WERY, J. E., 1950.—"La schistosomiase bovine au Ruanda-Urundi." 30 (6), 1613-1614. [Flemish summary p. 1614.]

(480a) Experimental infection of four mice with cercariae obtained from *Planorbis stanleyi* showed this to be the intermediate host of *Schistosoma mansoni* at Sake and Bobandana on Lake Kivu, Belgian Congo. In one instance the schistosome cercariae were associated in the same snail with other furcocercous cercariae, and in two instances with lophocercariae.

P.M.B.

(480b) Schwetz reports on tests with miracil D in 35 cases of schistosomiasis mansoni at Kasenyi and Bunia in the Belgian Congo, and in 28 cases of schistosomiasis haematobia in the Lango district of Uganda. With a few exceptions, miracil caused a marked improvement in the clinical symptoms, especially in the latter disease. Its vermifugal effect was less satisfactory but in cases where eggs were found in the faeces or urine after treatment, they were very much reduced in number and were mostly non-viable. The drug was very well tolerated; the ease of administration and the short duration of the treatment are contrasted with those of tartar emetic. The dose rate recommended for an adult case of schistosomiasis mansoni is 3 tablets of 0.2 gm. of miracil each morning and 2 each evening for 5 days, the same course to be repeated 3-5 weeks later, total 10 gm. The cases of schistosomiasis haematobia were only given a single 5-day course of 5 or 6 tablets per day, total 5-6 gm. For children 2-4 tablets per day, according to age, for 5 days are recommended. Evidence of the exact efficacy of miracil was unobtainable as the number of cases which could be followed up was relatively small. Schwetz comments adversely on a paper by Marill & Friess [for abstract see Helm. Abs., 18, No. 171c] which records merely the presence of eggs of *Schistosoma haematobium* in the urine before and after treatment with miracil, and makes no reference to the number or condition of the eggs.

P.M.B.

(480c) Experimental infection of white mice with *Schistosoma mansoni* was achieved with cercariae obtained from various fluviatile planorbid snails at Bunia and Irumu in the Belgian Congo. Of a total of seven mice three were found positive, with eggs in the faeces on the 50th to 55th day after immersion in water containing cercariae. Another showed no eggs in the faeces but at autopsy 90 days after infection there were many immature males but no females in the liver; it is concluded that the males failed to reach maturity in the absence of females; cercariae from four snails were present in the infective liquid used in this instance, including cercariae from three which had produced normal infection with both sexes in another mouse. One mouse showed no eggs, but as early as the 34th day numerous immature schistosomes, the majority male, were present in the liver and mesentery. The remaining two were not thoroughly examined.

P.M.B.

(480d) *Simulium albivirgatum* and *S. faini* have disappeared for eight months [at the time of publication] from areas near Leopoldville, Belgian Congo, where gammexane was applied to the sources of rivers and all their tributaries. The amount used was calculated at the rate of 3 mg. gammexane per litre of water flowing per minute at the point of outflow into the main stream. Larvae disappeared within 48 hours. Where limited sections of other rivers were treated, total disappearance of larvae for 10-14 days was achieved by the application of 1.5 mg. per litre. Although the chemical is lethal to fish when first applied in large quantities, the authors consider that the balance of fauna and flora in the rivers is not seriously affected. It is noted that these particular species of *Simulium* are not vectors of *Onchocerca volvulus* but it is considered that gammexane will also prove to be effective against other species.

P.M.B.

(480f) The first four chapters of this monograph on human onchocerciasis in the Belgian Congo contain a list of the species of *Simulium* of this region, an account of the biology of *Simulium damnosum* in both larval and adult phases, and of the biology, in brief,

of two human biting species, *S. albivirgulatum* and *S. faini*. Chapter V deals with the transmission of *Onchocerca volvulus* by *S. damnosum*: 2,828 specimens were dissected and 6.2% were found to contain developing larvae and 1.76% infective larvae. In experimental infections of this species the development was completed in 6-7 days. *S. albivirgulatum* was found to play no role in the transmission of *O. volvulus*. Chapters VI to IX deal respectively with the pathogenicity of *O. volvulus*, regional and local distribution and infection rates, prophylaxis and chemotherapy. An appendix lists 53 African species of *Simulium* with notes on the distribution of each. There is a bibliography of 187 references. J.J.C.L.

(480g) Bie & Delville describe the post-mortem findings in five cases of cancer of the liver and hepatic schistosomiasis *mansoni*, and of four cases of hepatic schistosomiasis which showed no evidence of cancer, at Elisabethville, Katanga, Belgian Congo. There appeared to be no direct connection between the two conditions or between schistosomiasis and cirrhosis; pathological evidence was supported by the fact that, despite the frequency of schistosomiasis in the native population of Katanga, cancer of the liver is relatively rare. The authors recommend the substitution of the term periportal bilharzial sclerosis for bilharzial cirrhosis which is considered to be an inaccurate description of the lesion produced. P.M.B.J.

(480h) In parts of the Feshi territory along the Inzia river between the latitudes of 5°30'S. and 6°S. in the Belgian Congo, onchocerciasis affects nearly 100% of the male and a somewhat lower proportion of the female population. Variations within this focus, which is most clearly defined on the south and east, depend to a great extent on the site of villages in relation to the river and forest. Slightly more nodules were found on the legs, particularly on the knees, than on the upper parts of the body; they were not often present on the head. Microfilariae were only found in 59 out of 89 persons with nodules, while out of 88 without nodules, 14 had microfilariae. In the entire focal area, ocular complications occurred in only 1%. The vector of *Onchocerca volvulus* in this district is *Simulium renauxi*, whereas at the mouth of the Inzia river further north, where Fain found only 30% of the population infected, the only species present were *S. damnosum* and *S. albivirgulatum*. Microfilariae *streptocerca* and *Mf. bancrofti* were not detected and there was no case of elephantiasis; found in approximately 1,350 examinations made. *Mf. perstans* was fairly frequent and *Mf. loa* occurred occasionally. P.M.B.J.

(480i) The autopsy findings in a case of hepatic schistosomiasis *mansoni* in a white man, from the Kasai area of the Belgian Congo, who showed no clinical symptoms are described. P.M.B.J.

(480j) Schoenaers & Gregoire list the helminth parasites which they and other workers have found in bovines, sheep, goats, pigs, dogs, hens and pigeons in the Belgian Congo. P.M.B.J.

(480k) Schwetz, in collaboration with Baumann and Fort, reports that schistosome eggs morphologically identical with those of *Schistosoma rodhaini* as described by Brumpt (1931) have been recovered from white mice. These mice had been exposed to mammalian schistosome cercariae obtained from planorbids collected at Keyberg and from the Lubumbashi river in the Elisabethville area, Belgian Congo. The author observes that further investigations are in progress to ascertain whether this schistosome is a valid species or a variety of *S. mansoni* restricted to the region of Elisabethville. P.L.I.E.R.

(480l) Wery reports that the microscopical examination of muco-purulent flocculi from the urinary bladders of 30 cows suffering from chronic haematuria, revealed that 15 animals were infected with *Schistosoma bovis*. He accepts that the chronic haematuria is due to schistosomiasis. The examination of the sediment of urine collected during normal urination failed to demonstrate readily the presence of eggs and he recommends the emptying of the bladder after urination by a catheter and the examination of the muco-purulent material present in the urine thus collected. P.L.I.E.R.

481—Annales de la Société Royale Zoologique de Belgique.

- a. BRANDE, J. VAN DEN, 1950.—"Note sur la découverte, en Belgique, du nématode de la pomme de terre, *Heterodera rostochiensis* Wollenweber." 80, 21-24.
- b. PENNOIT-DE COOMAN, E., 1950.—"Le métabolisme respiratoire d'*Anguillula silusiae* de Man." Year 1950 [1951], 81, 5-13.
- c. GREMBERGEN, G. VAN, 1950.—"Au sujet de la nutrition chez *Fasciola hepatica*." Year 1950 [1951], 81, 15-20.
- d. VERCRUYSE, R., 1950.—"Un nouveau parasite de l'éléphant d'Afrique, *Loxodonta africana*: *Cotylophoron cotylophorum* (Fischöeder 1901) Stiles et Goldberger 1910." Year 1950 [1951], 81, 21-24.
- e. CONINCK, L. A. P. DE, 1950.—"Les relations de symétrie, régissant la distribution des organes sensibles antérieurs chez les nématodes." Year 1950 [1951], 81, 25-32.
- f. SCHWETZ, J., 1950.—"Sur un prédateur des mollusques d'eau douce de l'Afrique centrale." Year 1950 [1951], 81, 145-146.

(481a) Brande reports the first discovery in Belgium of *Heterodera rostochiensis*. It was found in potato soil, in March 1949, from smallholdings near Lombartzijde, on the coast. He briefly describes the symptoms and stresses economic importance in terms of reduced yield. Control is by rotation and possibly by fumigation. B.G.P.

(481b) Pennoit-De Cooman finds that the respiratory mechanism in *Anguillula silusiae* resembles that of vertebrates in many respects; it differs from the mechanism in *Ascaris* by the absence of any stimulation by potassium cyanide or methylene blue. The oxygen consumption is as high as that of active vertebrate tissue. He has demonstrated the presence of the Szent-Györgyi and Warburg-Keilin systems but finds that methylene blue inhibits rather than activates respiration and also decreases the stimulating and stabilizing effects of succinate and lactate. No explanation for this has been found unless it is that methylene blue is toxic to this nematode. S.W.

(481c) Grembergen has found that *Fasciola hepatica* possesses a pigment of the haemoglobin type and is a blood feeder. He has demonstrated the presence of oxyhaemoglobin and a degradation product (probably methaemoglobin) in the bile ducts of infected animals. Analysis of the intestinal contents of the flukes revealed the absence of any bile pigments or bivalent iron and the presence of trivalent iron and haemoglobin derivatives, believed to be methaemoglobin; he has also demonstrated the presence of a peroxidase. Grembergen does not consider that this contradicts Stephenson's work, but is of the opinion that methaemoglobin is one of the products formed during the breakdown of oxyhaemoglobin to haematin. S.W.

(481d) *Cotylophoron cotylophorum*, hitherto known only as one of the amphistomes commonly found in ruminants, is now reported from *Loxodonta africana*. These specimens from the African elephant differ only in the relation of Laurer's canal to the excretory vesicle which it does not cross, but this has been shown by Stunkard to be a very variable condition. R.T.L.

(481e) The arrangement of the sensory papillae on the anterior end of several genera of free-living nematodes has been studied by Coninck who considers them to be of importance in the systematics of the group. His observations are not in accord with those of Chitwood & Wehr or of Schuurmans Stekhoven but approach those of Filipjev, differing chiefly in the recognition of one postlabial and two labial circles of papillae. R.T.L.

(481f) Examples of *Planorbis tanganyicensis* (*P. tanganikanus*), *P. choanomphalus* and *P. pfeifferi* in Central Africa are occasionally attacked by *Luciola* larvae which belong to the family Lampyridae (Coleoptera) in Central Africa. Mozeley has already recorded a similar attack on *Physopsis* in Rhodesia. Under existing conditions the effect on the molluscan fauna of any habitat is unlikely to prove of importance. R.T.L.

482—*Annales Universitatis Mariae Curie-Skłodowska, Lublin.*

- a. GAUGUSCH, Z., 1950.—“Badania nad zakażaniem zwierząt zmiennokrwistych włośniami.” Sectio DD, 5 (1/6), 95–106. [English summary p. 106.]
- b. TRAWIŃSKI, A., 1950.—“Diagnostic methods in parasitic diseases caused by worms.” Sectio DD, 5 (7/14), 177–200. [Polish summary pp. 197–200.]

(482a) *Astacus fluviatilis*, axolotls and a number of fresh-water fishes could not be infected with *Trichinella spiralis*. In tadpoles the life-cycle was not completed as the larvae failed to encyst in the muscles. The *Trichinella* larvae obtained from frogs and tadpoles were able to complete the life-cycle in mammals. R.T.L.

(482b) Trawiński gives an account of experimental studies, by himself and his students, over a period of 15 years on sero-allergic methods for the diagnosis of helminth infections in man and animals. The methods of preparing antigen and sera and the technique of precipitin and allergic tests are detailed. The results obtained are tabulated particularly in (i) 16 cases of cerebral cysticerciasis in man, (ii) 93 cases of muscular cysticerciasis in pigs, (iii) 36 instances of cysticerciasis in rabbits, (iv) 61 cases of trichinosis in man and 24 in pigs, (v) 16 cases of hydatid in man and 248 in cattle and sheep, (vi) 366 cases of fascioliasis in cattle and sheep and (vii) 60 instances of strongylosis in horses. The most important and difficult factor is the proper preparation of the antigens. It proved possible to differentiate serologically the different species of *Taenia*. R.T.L.

483—*Annali Italiani di Chirurgia.*

- a. MINI, M., 1950.—“Echinococco multisacculare del diaframma. Estirpazione per via trans-pleurica antero-laterale. Guarigione.” 27 (8), 588–594.
- b. MINI, M., 1950.—“Echinococco del rene.” 27 (11), 801–809.

484—*Annali di Medicina Navale e Coloniale.*

- a. COSSAR, B., 1950.—“Contributo alla conoscenza della nosografia dell'ovest etiopico. Bilharziosi mista vescicale ed intestinale con localizzazione aberrante intestinale di *Schistosoma haematobium*.” 55 (2), 216–218.

(484a) A case of *Schistosoma haematobium* infection both of the bladder and intestine is reported from west Abyssinia. R.T.L.

485—*Annali della Sanità Pubblica. Rome.*

- a. PETRILLI, F. L., 1950.—“Sulle parassitosi intestinali riscontrate nel territorio del comune di Sestri Levante. Nota I. La diffusione dell'infestione da anchilostoma.” 11 (3), 927–942. [English, French & Spanish summaries p. 942.]
- b. PETRILLI, F. L., 1950.—“Sulle parassitosi intestinali riscontrate nel territorio del comune di Sestri Levante. Nota II. Diffusione dell'ascaridiosi ed altre parassitosi.” 11 (3), 943–949. [English, French & Spanish summaries p. 949.]

(485a) An examination by concentration in strong saline solution of the faeces of 1,268 inhabitants of Sestri Levante, in the Province of Genoa, showed that 13% contained hookworm eggs. The infection, which was not severe, ranged from 2.3% in San Bernardo to 21% in Pila. At Capoluogo it was 1.1% in the urban zones whereas in the rural zones it reached 15.4%. R.T.L.

(485b) Examination of the faeces of 1,268 inhabitants of Sestri Levante, in the Province of Genoa, showed eggs of *Ascaris* in 57%, of *Trichuris* in 16%, of *Enterobius* in 2.1%, of *Hymenolepis nana* in 0.16%, of *Taenia saginata* in 0.31%. Ova of *Heterodera radicola* were present in 0.78%. The dirt taken from under the nails of 27 infected persons showed *Ascaris* ova in 23 and *Trichuris* ova in two. R.T.L.

486—Annals of the Entomological Society of America.

- a. DALMAT, H. T., 1950.—“Studies on the flight range of certain Simuliidae, with the use of aniline dye marker.” 43 (4), 537-545.

(486a) In Guatemala a knowledge of the capacity of flight of vectors of onchocerciasis is important in view of the possibility of their introducing the disease into non-endemic areas. Marking experiments were carried out with three species, *Simulium* (*Simulium*) *ochraceum*, *S. (S.) metallicum* and *S. (Lanea) callidum*, which are believed to be the vectors in Guatemala and Mexico. Of the aniline dyes tested in the laboratory, Safranin Bluish was chosen for field trials. Flies were stained by dusting them with a ground-up mixture of one part dye with nine parts refined wheat flour. The solvent used for detecting the stain on flies was three parts absolute ethyl alcohol, two parts glycerin and one part chloroform. From February 23rd to May 21st a total of 19,580 flies was caught, stained and liberated from the release point, Finca La Conchita, on 75 days, and during the same period fly collecting was carried out at twenty stations situated at distances of up to 7.4 miles from the release point. Of 18,707 flies captured, 21 were stained, and these were taken at distances ranging from 2.1 miles to 7.4 miles away. One stained *S. metallicum* was recovered 3.8 miles away on the day after its release, indicating the rapidity of flight of this species and the probability that great distances may be covered.

J.J.C.B.

487—Archiv für Experimentelle Pathologie und Pharmakologie.

- a. LENDLE, L. & SCHNEIDER, H. H., 1950.—“Über die Eignung des Insektizids Hexachlorcyklohexan als Oxyurenmittel.” 210 (2), 119-136.
b. HOTOVY, R., 1950.—“Zur Pharmakologie des Oxyurenmittels ‘Egressin’.” 212 (1/2), 160-161. [Discussion pp. 161-162.]

(487a) Lendle & Schneider have carried out tests on “Hexaverm” (a benzene hexachloride preparation said to be effective against *Enterobius* in man) and have compared it with gammexane. *In vitro* experiments on enchytraeids, earthworms, leeches and *Ascaris* from pigs showed “Hexaverm” to be as effective as other established anthelmintics, except in the case of *Ascaris* and the results were similar to those obtained with gammexane. Toxicity tests on rats showed that the therapeutic dose of “Hexaverm” is sufficiently below the toxic dose to justify its anthelmintic use. Repeated daily doses of more than 25% of the lethal dose, however, produced cumulative toxic effects.

A.E.F.

(487b) Hotovy presents a short account of experimental work with mice, rats, guinea-pigs and rabbits on the toxicity of “Egressin”, a new anthelmintic which has proved successful against *Enterobius* infection. [For a fuller account of this work see No. 815b below.] A.E.F.

488—Archiv für Hygiene und Bakteriologie.

- a. BREDE, H. D., 1950.—“Enterobius-(Oxyuris-) Kuren mit Gammexan.” 133 (3), 229-234. [English & French summaries p. 233.]

(488a) Gammexane was administered to 512 individuals (aged from 2 to 74 years) with *Enterobius vermicularis* for three days at the rate of 50 mg. before each of three meals daily for adults and half this dose for children under ten years old. Fats and oils were avoided during treatment. After a single course 80.1% were free from ova for a period of 90 days when examined by the Scotch tape method, and 85.3% after a second course. Owing to the cumulative effect of gammexane it is inadvisable to give more than two courses of treatment.

R.T.L.

489—Archiv für Kinderheilkunde.

- a. FRANCK, W., 1950.—"Bemerkungen zur sog. Askariasis im Kindesalter an Hand 1100 stationär beobachteter Fälle. Gleichzeitig ein Beitrag zu geheilten Panmyelopathien im Kindesalter." 139 (3), 133-139.
- b. BURCKHARDT, G., 1950.—"Beobachtungen über die Magensäuresekretion bei der Ascaridiasis des Kindesalters." 139 (4), 174-184.

(489a) Franck mentions the difficulty of diagnosing *Ascaris* infection in children, especially since absence of ova in the faeces does not mean that worms are not present. He points out that serious complications of *Ascaris* infection are rarely present in children—of 1,100 cases seen by him, only four were so affected. Treatment with chenopodium oil and castor oil is recommended and Franck enjoins great care in the administration of santonin and warns against indiscriminate treatment with remedies of unknown constitution. He describes a severe case of santonin poisoning in a 3½-year-old girl who was given "worm powders" which were subsequently found to contain 0.025 gm. santonin. The child recovered after treatment.

A.E.F.

(489b) After a short account of the parasitology, symptoms and complications of human ascariasis, with special reference to the disease in children, Burckhardt discusses the connection between the behaviour of the parasite and the secretion of gastric juice by the host's organs. He concludes that *Ascaris* toxins do not inhibit the secretory activities of the stomach glands.

A.E.F.

490—Archives of Dermatology and Syphilology.

- a. BAER, R. L. & YANOWITZ, M., 1950.—"Skin tests in various infectious and parasitic diseases. A summary in table form." 62 (4), 491-501.
- b. GARDNER, R. K., STEWART, J. J. & THOMSEN, J. G., 1950.—"Trichinosis." 62 (6), 925. [Discussion p. 926.]

(490a) Skin tests can be used to establish if exposure to parasitic infection has taken place and if the skin is in a state of relative susceptibility or resistance. They can assist in diagnosis and prognosis. Four important types of skin reactions are recognized. A table indicates the commercial availability of antigens and type of reaction for 30 different diseases including ascariasis, echinococcosis, filariasis and trichinosis.

R.T.L.

(490b) A case of trichinosis in a negro woman is reported from Cleveland. On admission to hospital there was a generalized scarlatiniform eruption and pronounced swelling of the face, especially of the eyelids. Two days previously the patient had a sore throat, felt chilly and began to have soreness of the muscles of the neck, shoulders and arms, with drowsiness, anorexia and malaise. There was a pruritic skin eruption of the ears and face. Ten days before admission and 4 or 5 days prior to this, she and her husband had eaten pork which was said to have been well cooked.

R.T.L.

491—Archives Internationales de Pharmacodynamie et de Thérapie.

- a. DUGUID, A. M. E. & HEATHCOTE, R. ST. A., 1950.—"The actions of drugs *in vitro* on cestodes: I. Anthelmintics." 82 (3), 309-330.
- b. STANDAERT, A. & MASSART, L., 1950.—"L'antagonisme trypaflavine-sels étudié sur *Anguillula silusiae*." 83 (2), 350-352.
- c. DUGUID, A. M. E. & HEATHCOTE, R. ST. A., 1950.—"The action of drugs *in vitro* on cestodes: II. Non-anthelmintic drugs." 84 (2/3), 159-175.

(491a) *Moniezia expansa* is a suitable and reliable material for *in vitro* testing of potential and known anthelmintics. Arecoline, *l*-pelletierine and methyl-isopelletierine produced profound depression of the tapeworm musculature; other drugs first stimulate muscular activity and, except gentian violet, later cause depression. Santonin, pseudo-pelletierine and phenothiazine were inactive *in vitro*. Alkaloidal anthelmintics, such as *l*-pelletierine, would probably prove more effective if the duodenal and upper intestinal contents were rendered slightly alkaline.

R.T.L.

(491b) In a normal nutrient solution a female *Panagrellus silusiae* gives rise to 1st stage larvae which passing successively through the 2nd, 3rd, and 4th stages reach the 5th (adult) stage in about five days and in turn produce a new generation. In a solution of trypaflavine 1:50,000 the females give birth to larvae but these are much fewer and practically never reach the 3rd stage. In trypaflavine (1:50,000) and calcium chloride (M/100) the number is approximately normal but their growth is retarded. The adult stage may be reached but the authors have not observed a new generation. Thus trypaflavine in the presence of definite concentrations of inorganic salts loses its toxic effects. R.T.L.

(491c) In kymographic studies on the effect of over 40 drugs not normally used as anthelmintics, on *Moniezia expansa* in vitro, 20 showed activity at or below 1:50,000. Coniine was the most potent of those tested. It is pointed out that these results with *M. expansa* differ markedly from those obtained by Baldwin with *Ascaris* [for abstract see Helm. Abs., 12, No. 98a]. R.T.L.

492—Archives des Maladies de l'Appareil Digestif et des Maladies de la Nutrition.

- a. BUTTIAUX, R., 1950.—"Le microscope à contraste de phase en parasitologie intestinale." 39 (5), 578-582.
- b. CHEVALLIER, R., 1950.—"Les gastrites oedémateuses de l'helminthiase." 39 (6), 721-723.
- c. BOCCA, LAURIER & DELORE, 1950.—"Sur un cas grave d'ankylostomose." 39 (9 10), 1023-1026.

(492a) The phase contrast microscope has no advantages over the ordinary microscope for the examination of helminth eggs. R.T.L.

(492b) Chevallier describes the five different types of oedematous gastritis which he has observed in fifteen cases and which he attributes to the presence of *Taenia* in the intestine. A taeniafuge, especially male fern extract, usually gave rapid relief. P.M.B.

(492c) As ancylostomiasis has not been observed during the past ten years among the miners of the Loire Valley, a severe case is now recorded in which the red blood corpuscles numbered 2,142,000, the haemoglobin was 40% and the eosinophils reached 63%. There were great numbers of hookworm eggs in the faeces. The stools were black and there were intestinal haemorrhages. The patient recovered after treatment with tetrachlorethylene (3 gm. daily for three days) followed by a purge. R.T.L.

493—Archives des Maladies Professionnelles, de Médecine du Travail et de Sécurité Sociale.

- a. ROMAN, E. & MOREL, P., 1950.—"Faut-il étendre à l'anguillulose des mineurs les mesures législatives de prévention et de réparation en faveur de l'ankylostomose professionnelle?" 11 (5), 488-490.

494—Archives of Pathology.

- a. SYMMERS, W. ST. C., 1950.—"Pathology of oxyuriasis with special reference to granulomas due to the presence of *Oxyuris vermicularis* (*Enterobius vermicularis*) and its ova in the tissues." 50 (4), 475-516.

(494a) The granulomas formed around *Enterobius vermicularis* which have strayed in the tissues from their usual habitat and have died, or around ova deposited during these migrations are probably seldom recognized as they infrequently cause symptoms or complications. Published cases are reviewed and an account is given of three new cases. R.T.L.

495—Archivio Italiano di Anatomia e Istologia Patologica.

- a. SERRA, P., 1950.—"Cisti da echinococco intradurale lombare." 23 (3), 235-240. [English & German summaries p. 239.]

496—Archivio Italiano di Otologia, Rinologia e Laringologia.

- a. ZAPPALÀ, A., 1950.—"Emofili nel condotto uditivo esterno (sanguisuga—zecche)." 61 (3), 278–280.

497—Archivio Italiano di Scienze Mediche Tropicali e di Parassitologia.

- a. LIPPI, M., 1950.—"Rilievi sull'echinococcosi nella provincia di Cagliari." 31 (5), 337–343. [English, French & German summaries pp. 342–343.]
- b. BENETAZZO, B. & GAMBINI, G., 1950.—"Sulla patogenesi dell'anchilostomanemia. Studio clinico-terapeutico." 31 (6), 422–460. [English, French & German summaries pp. 454–455.]
- c. PIETRO, P. DI, 1950.—"Su alcuni casi di avvelenamento da sostanze assunte a scopo antielmintico da nativi dell'Africa Orientale." 31 (8), 597–600.
- d. TRIPODI, P., 1950.—"La ricerca di uova di elminti nelle feci con il metodo di arricchimento 'AEX'." 31 (9), 644–654. [English, French & German summaries p. 653.]
- e. BENETAZZO, B. & ZAMA, F., 1950.—"Sulle reazioni immuno-allergiche nell'ascaridiosi umana." 31 (9), 655–670. [English, French & German summaries pp. 668–669.]
- f. LIPPARONI, E., 1950.—"Note di epidemiologia della schistosomiasi vescicale nella zona del medio Uebi Scebeli e rilievi circa la profilassi e terapia." 31 (10), 769–775. [English, French & German summaries pp. 774–775.]
- g. LIPPI, M. & TRIPODI, P., 1950.—"Sintomi e quadri clinici nell'ascaridiosi." 31 (11), 783–822. [English, French & German summaries p. 821.]
- h. BENETAZZO, B. & PANSA, G., 1950.—"Aggiornamento delle terapie antielmintiche." 31 (12), 853–882.

(497b) Continuing their study of twelve cases of ancylostomiasis Benetazzo & Gambini accept the view that the anaemia is of the iron-deficiency type in which the loss of blood is an important factor.

R.T.L.

(497c) Pietro describes the various toxic symptoms, severe in many cases, which occurred among natives in East Africa after using the following substances as anthelmintics: (i) "kouso", which is prepared from the flowers of *Hagenia abyssinica* and is taken either alone or mixed with the berries of the 'ncoco shrub; (ii) the latex of a *Euphorbia*; (iii) benzine. One death occurred shortly after using the first substance.

P.M.B.

(497d) Tripodi describes the various methods for the examination of faeces for helminth ova and compares incidence figures obtained by examining 200 specimens (i) by direct microscopic examination, (ii) by Telemann's concentration method as modified by De Rivas, in which the sample is treated with ether and acetic acid and (iii) by the AEX method using hydrochloric acid, ether and xylol. The results with the three methods were respectively: (i) *Ascaris* in 7.5%, hookworm in 2.5%, *Trichuris* in 6% and *Hymenolepis nana* in 0.5%; corresponding figures were (ii) 13%, 3.5%, 9.5% and 0.5% and (iii) 19%, 4.5%, 10.5% and 0.5%. The AEX method, which is simple in use, was found to be particularly sensitive in detecting hookworm and unfertilized *Ascaris* ova.

P.M.B.

(497e) Benetazzo & Zama review previous work on the value of immunological reactions in the diagnosis of ascariasis. They describe the preparation of antigens from *Parascaris equorum* and the results they obtained from tests on 43 human cases of helminthiasis. The intradermal test gave positive results in all the cases of ascariasis (including one which had shown no evidence of infection for five months), two out of three cases of taeniasis, one out of three cases of trichuriasis and four out of twenty controls. Three enterobiasis cases gave negative results.

S.W.

(497f) In a plantation area about 50 miles long and 30 miles wide in Somaliland irrigated by the Webi-Shebeli River, 3.33% of the population of about 30,000 are said to show clinical signs of schistosomiasis. The use of a flame thrower on the canal and river banks did not prove an effective method of controlling *Bulinus contortus* and *Physopsis africana* which were prevalent there.

R.T.L.

(497g) This review of the various symptoms and clinical forms of ascariasis is based entirely on a study of the literature.

R.T.L.

(497h) Benetazzo & Pansa review the history of the use of various anthelmintics, including Leche de Higuerón, tetrachlorethylene, hexylresorcinol and phenothiazine, giving details of their toxicity and administration. A summary is given of more recent tests by various workers using embelia, butea, 'ncoco, areca nut, arecolin hydrobromide, pelletierine tannate, various triphenylmethane derivatives, alkyl benzene derivatives, halogenated hydroxybenzenes, sodium fluoride, hetrazan, gammexane and the acridine and quinoline derivatives metoquina or mepacrin (=atebrin), acranil and chloroquine. P.M.B.

498—Archivio di Ortopedia.

- a. CAVINA, C., 1950.—"Considerazioni su di un caso di echinococchi vertebrali. (Specie in riferimento alla D.D. di ernia del disco)." 63 (2), 135-143.
- b. CAVADI, A., 1950.—"Sacroileite destra con ascaridi lumbricoidi consecutiva ad ascesso della fossa iliaca destra da appendicite acuta." 63 (3), 300-302.

499—Archivio "de Vecchi" per l'Anatomia Patologica e la Medicina Clinica.

- a. MALTEZ, C. A., 1950.—"Localizzazione ovarica dello *Schistosoma mansoni*." 14 (3), 1109-1114.

500—Archivos Argentinos de Tisiología.

- a. TICINESE, J. B., RABANAQUE CABALLERO, R. & EZAOU, J. L., 1950.—"Tres casos de hidatidosis pulmonar en la infancia." 26 (3/4), 107-117.

501—Archivos Brasileiros de Medicina.

- a. PARAHY, O., 1950.—"Incidência das entero-parasitoses na população rural em face das precárias condições do abastecimento d'água." 40 (3/4), 105-111.

(501a) Of 657 faecal examinations made at Salgueiro in Pernambuco State, Brazil, 10.3% were positive for *Ascaris lumbricoides*, 4.4% for *Trichuris trichiura*, 1.6% for *Necator americanus*, 1.6% for *Enterobius vermicularis*, 0.4% for *Taenia* sp., 0.3% for *Schistosoma mansoni* and 0.3% for *Strongyloides stercoralis*. Parahym considers that the actual incidence was probably greater. In the forested coastal area the incidence was greater than in the higher, more open country inland. P.M.B.

502—Archivos Internacionales de la Hidatidosis. Montevideo.

- a. DÉVÉ, F., 1950.—"Travaux personnels concernant l'échinococcose." 11 (1/2), 7-22.
- b. COSTANTINI, H., 1950.—"De l'individualité anatomo-physio-pathologique du sac fibreux périparasitaire dans les kystes hydatiques du foie et de son pouvoir calciopexique. La kystectomie par délamination à la rugine pour les kystes suppurés." 11 (1/2), 39-47.
- c. CURTILLET, E., 1950.—"Les kystes hydatiques multiples du poumon." 11 (1/2), 49-55.
- d. GOINARD, P., DESCUNS, P. & GARRE, H., 1950.—"Le formolage des kystes hydatiques du cerveau." 11 (1/2), 57-58.
- e. BOURGEON, R., 1950.—"Les kystes hydatiques cardio-péricardiques." 11 (1/2), 59-66.
- f. THIODET, J., 1950.—"Une manifestation rare de l'allergie échinococcique 'ostéopathie hypertriphantique pneumique au cours d'une échinococcose pulmonaire'." 11 (1/2), 67-73.
- g. ANTONUCCI, C., 1950.—"La sindrome emorragica nella 'ritenzione secca' della membrana nella echinococcosi polmonare." 11 (1/2), 75-83.
- h. GROSSI, T. & MINI, M., 1950.—"La soluzione G. nella terapia delle cisti da echinococco calcificate." 11 (1/2), 85-94.
- i. MINI, M., 1950.—"Su 34 casi di cisti da echinococco primitivo. Operati in dieci anni nella Clinica Chirurgica di Bologna." 11 (1/2), 95-139.
- j. IMPERATI, L., 1950.—"Il trattamento dello echinococco polmonare mediante chiusura primaria a pleure ascluse." 11 (1/2), 147-155.
- k. SANTA CRUZ, F., 1950.—"La echinococcosi del rene." 11 (1/2), 147-174.
- l. PEÑA, A. DE LA, 1950.—"Hidatidosis renal y pararenal." 11 (1/2), 175-184.
- m. CALVO MELENDRO, J., 1950.—"La equinococosis familiar." 11 (1/2), 185-192.
- n. MAGATH, T. B., 1950.—"The present status of hydatid (Echinococcus) disease in North America." 11 (1/2), 193-210.
- o. EMERY, C. A., 1950.—"Orientación de las campañas de profilaxis de las zoonosis transmisibles al hombre." 11 (1/2), 211-212.

- p. SPERONI, J. C. & MENDY, R. M., 1950.—"Profilaxis de la hidatidosis en la Patagonia." 11 (1/2), 213-224.
- q. PÉREZ FONTANA, V., 1950.—"Sobre la campaña sanitaria en la Patagonia." 11 (1/2), 225-226.
- r. MENDY, R. M. & SOTA, E. DE LA, 1950.—"Campaña de profilaxis antihidática y antirrábica realizada en la provincia de Corrientes." 11 (1/2), 227-229.
- s. JORGE, J. M., 1950.—"Profilaxis de la equinococosis en la República Argentina." 11 (1/2), 231-246.
- t. ROSENBUCH, F., 1950.—"El estudio de la biología del *Echinococcus* es fuente inagotable de conocimientos útiles en la patogenia y profilaxis hidática." 11 (1/2), 247-248.
- u. CASTEX, M. R. & CAPDEHOURAT, E. L., 1950.—"Radiografía contrastada de un quiste hidatídico cérvico-torácico." 11 (1/2), 249-253.
- v. IVANISSEVICH, O. & RIVAS, C. I., 1950.—"Quistes hidáticos complicados." 11 (1/2), 255-257.
- w. GOÑI MORENO, I., 1950.—"Hidatidosis pulmonar secundaria broncogenética." 11 (1/2), 259-272.
- x. VANNI, V. & RADICE, J. C., 1950.—"Estructura del *Echinococcus granulosus* con microscopía fluorescentes (con 3 láminas)." 11 (1/2), 273-283.
- y. RIVAS, C. T., 1950.—"Equinococosis hidática del peritoneo. Clasificación personal." 11 (1/2), 287-288.
- z. FERRO, A. & BOLPE, O. C., 1950.—"Dermopatía arecolínica." 11 (1/2), 289-297.
- ba. ALLENDE, J. M. & LANGER, L., 1950.—"Traitement chirurgical de l'hydatidose pulmonaire." 11 (1/2), 299-306.
- bb. YÓDICE, A. & LE CHIARE, F., 1950.—"Tratamiento actual de los quistes hidáticos del pulmón." 11 (1/2), 307-313.
- bc. PEREIRA, P. A., 1950.—"Iniciado no Brasil o combate á hidatidose." 11 (1/2), 315-318.
- bd. FANTA, E., FAIGUENBAUM, J. & NEGHEM, A., 1950.—"Ensayo de tratamiento biológico de la hidatidosis en Chile." 11 (1/2), 319-329.
- be. BLANCO ACEVEDO, E., MORADOR, J. L. & MINETTI, R., 1950.—"Quiste hidático de la glándula mamaria." 11 (1/2), 335-344.
- bf. DELFINO, A., 1950.—"Parto distócico por quiste hidático previo." 11 (1/2), 345-346.
- bg. LARGHERO, P., BELLO, R. DI & VICTORICA, A., 1950.—"Pericarditis constrictiva hidática." 11 (1/2), 347-370.
- bh. NOGUEIRA, A., 1950.—"Quistes hidáticos del riñón." 11 (1/2), 371-375.
- bi. PRAT, D. & MEDOC, J., 1950.—"Quistes hidáticos calcificados." 11 (1/2), 377-412.
- bj. SURRACO, L. A., 1950.—"El quiste hidático en las vías urinarias." 11 (1/2), 413-415.
- bk. RODRÍGUEZ LÓPEZ, M. B. & MAUTONE, J. A., 1950.—"Quistes hidáticos del aparato genital femenino." 11 (1/2), 417-423.
- bl. CROTTOGINI, J. J. & LEBORGNE, R., 1950.—"Quiste hidático de la mama." 11 (1/2), 425-426.
- bm. MURGUÍA DE ROSO, E., FOLLE, J. A., ADDIEGO, A., 1950.—"Quistes hidáticos de la glándula sub-maxilar." 11 (1/2), 427-442.
- bn. PÉREZ FONTANA, V., 1950.—"Nuevo tratamiento de la hidatidosis raquídea." 11 (1/2), 443-466.
- bo. PÉREZ FONTANA, V., 1950.—"Métodos y procedimientos operatorios en el quiste hidático del pulmón." 11 (1/2), 471-482.
- bp. SURRACO, L. A. & PÉREZ FONTANA, V., 1950.—"Nuevo método de operar en el quiste hidático del riñón." 11 (1/2), 483-491.

(502d) Following Dévé's use of formalin as a vermicide in the surgical treatment of hydatid in sites other than the brain, Goinard *et al.* now recommend, in cases of cerebral hydatid, the injection of 1% formalin for five minutes following drainage of the cyst, and again after removal of the cyst membrane.

P.M.B.

(502h) [This paper appears also in *Ann. ital. Chir.*, 1951, 28, 48-58. For abstract see *Helm. Abs.*, 20, No. 336a.]

(502n) Since Magath published, in 1941, a summary of 519 known cases of hydatid in man reported from the continent, he has traced reports of 77 cases in North America (diagnosed between the years 1900 and 1948). There is also evidence of the existence of about 100 unreported cases, bringing the total to about 700. In most cases the infection had apparently been acquired outside North America: 95% of all cases were immigrants. Since 1808 only 35 native-born Americans who had never left the U.S.A. have been found infected. There appear to be very small endemic centres in the Arkansas-Louisiana area, California, Utah and Ontario. Considering the large sheep and dog population the number

of autochthonous cases is remarkably small: an average of only one every two or three years may be expected.

P.M.B.

(502x) Microscopical study of *Echinococcus granulosus* under ultra-violet light has enabled Vanni & Radice to distinguish scolices with a blue fluorescence and other smaller ones with an orange-yellow fluorescence. The calcareous deposits on the calcified pericyst showed yellow fluorescence, or blue when treated with chloroform, xylol, acetone or other solvents. The description is illustrated by coloured photomicrographs.

P.M.B.

(502z) Ferro & Bolpe describe four cases of dermatosis in men employed in the campaign against hydatid disease in the province of Buenos Aires. It was caused by repeated contact with arecoline hydrobromide used for treating dogs.

P.M.B.

(502bd) Biological treatment of inoperable hydatid, by intradermal injections of hydatid antigen, is shown in 19 cases to have resulted in a lessening of the symptoms and an improvement of the general condition, especially in cases with multiple abdominal cysts. It is emphasized that this treatment does not cure hydatidosis and does not replace surgical treatment whenever this is possible. It is also of value for pre- and post-operative use.

P.M.B.

(502bn) Pérez Fontana gives clinical details and describes the surgical treatment of three cases of hydatid of the spinal column, in which he recommends the application of phenol to the cavity (in preference to formalin) followed by washing with alcohol.

P.M.B.

503—Archivos de Oftalmología de Buenos Aires.

- a. ORIBE, M. F., GARCÍA NOCITO, P. F. & CASTRO, E. A., 1950.—“Hidatidosis orbitaria.” 25 (5), 225-229.

504—Archivos de Pediatría del Uruguay.

- a. MORQUIO, L., 1950.—“Quiste hidático de las regiones rolandica y frontal del cerebro.” 21 (8), 593-598.
- b. RIAL, B., GOMENSORO, C. & CHAPPE, W., 1950.—“Distomatosis hepática humana (por *Fasciola hepatica*). 3 observaciones en niños y 1 en adulto.” 21 (11), 943-944.

505—Archivos de la Sociedad Oftalmológica Hispano-Americana. Madrid.

- a. SÁNCHEZ MOSQUERA, M., 1950.—“Aportación a la casuística de la cisticercosis endocular. Consideraciones sobre un nuevo caso.” 10 (8), 777-784. [Discussion p. 785.]
- b. BEIRAS GARCÍA, 1950.—“Cisticerco en vítreo.” 10 (8), 786-791.

506—Archivos Uruguayos de Medicina, Cirugía y Especialidades.

- a. CAMPO, J. C. DEL, 1950.—“Equinococosis vertebral. Resección total de la 5ª lumbar.” 36 (3/4), 337-354. [Discussion pp. 354-357.]
- b. LARGHERO YBARZ, P., 1950.—“Equinococosis heterotópica del peritoneo de origen esplénico. Accidente agudo de parto de vesícula gigante y hemorragia peritoneal.” 36 (6), 525-529.
- c. PIAGGIO BLANCO, R. A., DUBOURDIEU, J. J., DIGHIERO, J., CANABAL, E. J. & GROSSO, O. F., 1950.—“Quiste hidático de la aurícula derecha, equinococosis pulmonar metastática y corazón pulmonar crónico hidático causado por una obstrucción parasitaria de la arteria pulmonar izquierda y de sus ramas.” 36 (6), 530-551. [English summary pp. 549-550.]
- d. CAMPO, J. C. DEL, 1950.—“Cor pulmonale hidático. Comentarios quirúrgicos.” 36 (6), 552-557. [Discussion pp. 557-559.]
- e. LIESEGANG, W., 1950.—“Consideraciones sobre la hidatidosis.” 37 (4/5), 379-385.
- f. CAMPO, J. C. DEL, 1950.—“Quistes hidáticos calcificados del hígado.” 37 (4/5), 429-436. [Discussion pp. 437-438.]
- g. SUÁREZ, H. & VICTORICA, A., 1950.—“Tratamiento de los tránsitos hidáticos hepato-pulmonares transdiafragmáticos.” 37 (6), 565-583. [Discussion pp. 583-584.]

507—Archivos Venezolanos de Patología Tropical y Parasitología Médica.

- a. MARCUZZI, G., 1950.—“Notas sobre la anatomía y la histología del caracol *Australorbis glabratus* (Moll. Gasteropoda).” 2 (1), 1-74. [English summary pp. 50-52.]
- b. PIFANO, C., F. & MARCUZZI, G., 1950.—“Contribución al estudio experimental de las miocardiopatías parasitarias de la región neotrópica. Investigaciones histopatológicas sobre el miocardio de ratones blancos infectados experimentalmente con *Schizotrypanum cruzi* y *Schistosoma mansoni*, sometidos a dietas carentes en vitamina B₁ y factor PP. Comunicación preliminar.” 2 (1), 175-182. [English summary p. 181.]
- c. PIFANO C., F. & BENAÍM PINTO, H., 1950.—“La miocarditis crónica en Venezuela. Estudio analítico y sintético del problema etio-patogénico de la miocarditis crónica en el medio rural venezolano.” 2 (1), 223-234. [English summary pp. 232-233.]
- d. PEÑALVER, L. M., 1950.—“Infección experimental de moluscos fluviales cubanos con *Schistosoma mansoni*.” 2 (1), 297-308. [English summary p. 307.]
- e. MARCUZZI, G., 1950.—“Estudio experimental sobre la miocarditis.” 2 (1), 309-376.

(507a) Marcuzzi gives a detailed account of the anatomy and histology of the various organs of *Australorbis glabratus*. The hepatic tubules normally lack a reticular basal membrane. This is only evident in snails infected with schistosomes and is a reaction process. Infection is followed by the destruction of the hepatic parenchyma, which is not replaced, the formation of cysts and sometimes of fibromata. R.T.L.

(507b) White mice experimentally infected with *Schistosoma mansoni* showed myocardial degenerative changes without myocarditis when fed on normal diet and on diets deficient in vitamin B₁ complex and the PP factor. R.T.L.

(507c) The chronic myocarditis syndrome observed in rural areas of Venezuela is attributed to (i) syphilis, (ii) schistosomiasis mansoni, (iii) ancylostomiasis and (iv) Chagas disease, with lack of adequate diets and particularly of vitamin B complex as an accompanying factor. R.T.L.

(507d) Peñalver did not succeed in infecting the following six species of fresh-water molluscs of Cuba with *Schistosoma mansoni*, viz., *Helisoma caribaeus*, *Physa cubensis*, *Limnaea cubensis*, *Marusa cornuspira*, or *Tropicorbis havanensis* and *Pomacea paludosa* which some authors have implicated experimentally. R.T.L.

508—Arctic. Montreal.

- a. BRANDLY, P. J. & RAUSCH, R., 1950.—“A preliminary note on trichinosis investigations in Alaska.” 3 (2), 105-107.

(508a) In polar carnivores there is a high incidence of *Trichinella* infection and marine mammals have a definite place in the epizootiology of trichinelliasis. The following mammals from Alaska have been found to be infected on examination at the U.S. Public Health Service Laboratory at Anchorage: (i) from the Arctic coast: polar bear (*Thalarctos maritimus*), arctic fox (*Alopex lagopus inuitus*), red fox (*Vulpes fulva alascensis*), white whale (*Delphinapterus leuca*) and Eskimo dog; (ii) from south of the Brooks Range: brown and grizzly bears (*Ursus* spp.), wolf (*Canis lupus*) and wolverine (*Gulo luscus luscus*). As a result of a limited amount of skin testing of the population along the Arctic coast, 27% of 70 adults in the village of Wainwright were found to be infected and a similar incidence in Barrow village was noted. R.T.L.

509—Arhiv za Higijenu Rada. Zagreb.

- a. NIKOLIĆ, J. & WEISER, J., 1950.—“Prilog poznavanju profesionalne ankilostomijaze u Bosni i Hercegovini.” 1 (1), 25-36. [English summary p. 36.]

(509a) Helminth infections are prevalent in workers in the Yugoslav mines. Examination by the modified Faust technique of about 50 stools from miners at each pit showed that the highest incidence was at Kreka (96%) and the lowest in Mostar (36%). Strongyloides larvae were found in Kakanj; there were also two mild cases of ancylostomiasis. At Mostar, Trichuris was more prevalent than Ascaris. Prophylactic measures are discussed. R.T.L.

510—Arquivos Brasileiros de Cardiologia.

- a. ALMEIDA PRADO, A. DE, 1950.—“Aspectos anátomo-clínicos da esquistossome cardiopulmonar. Arterite pulmonar e síndrome de cardíaco negro.” 3 (3), 367-380.
- b. SOUZA CARMO, J. DE, SOARES MOURÃO, E., FRAGA FILHO, G. & OLIVIERA, C. B., 1950.—“Hidatidose cardíaca solitária. Considerações teóricas e estudo clínico de um caso.” 3 (4), 545-564.

511—Arquivos de Higiene e Saúde Pública. São Paulo.

- a. PASCALE, H., 1950.—“Censo de verminose no interior do Estado de São Paulo em 1947. 1ª comunicação.” 15 (43), 3-14. [English summary pp. 13-14.]

(511a) From an examination of the records of faecal examinations of 200 urban and 800 rural inhabitants in the State of São Paulo, the incidence in 1947 of “verminosis” has been found to be 65.58% in urban areas and 80.11% in the rural areas. The data is tabulated under nationality and sex and according to the use or otherwise of privies, footgear, filtered water, raw fruits and salads.

R.T.L.

512—Askeri Sihhiye Dergisi.

- *a. INCEKARA, N., 1950.—[L'emploi de l'atébrine comme ténifuge.] 79 (60), 50-52. [In Turkish.]
- *b. ERGUDER, R. & AYRAL, M. N., 1950.—[Un cas de kyste hydatique rénal traité par extirpation chirurgicale.] 79 (60), 53-56. [In Turkish.]

513—Athena. Rome.

- a. PASSARIELLO, B. & GIULIANI, G., 1950.—“Considerazioni statistico-radiologiche sulla ascaridiosi intestinale.” 16 (12), 283-286.

514—Atti della Società Italiana delle Scienze Veterinarie.

- a. CASAROSA, L., 1950.—“La bronchite verminosa dei suini. Nota I: Diffusione della malattia in Italia e quadro anatomico-isto-patologico.” 4, 242-245. [English & French summaries p. 244.]
- b. CASAROSA, L., 1950.—“La bronchite verminosa dei suini. Nota II: Ricerche sul muscolare liscio endopolmonare.” 4, 245-249. [English & French summaries pp. 248-249.]
- c. PANEBIANCO, F., 1950.—“Ricerche e considerazioni sul numero degli uncini del *Cysticercus tenuicollis*.” 4, 471-476. [English & French summaries p. 476.]
- d. FAVA, A. & ZANACCA, G., 1950.—“Contributo alla conoscenza dell'echinococcosi cardiaca nei bovini.” 4, 503-520. [English & French summaries pp. 517-518.]
- e. ORFEL, Z., 1950.—“Reperti ematici e sterno-puntori in alcune malattie parassitarie degli ovini.” 4, 558-566. [English & French summaries pp. 565-566.]
- f. PAPANDREA, E., 1950.—“Nuove osservazioni sulla terapia delle strongilosi gastro-intestinali degli ovini.” 4, 756-761. [English & French summaries pp. 760-761.]
- g. MURA, D., 1950.—“Aborto in capre da grave infestazione parassitaria (*Haemonchus contortus* e *Oesophagostomum radiatum*).” 4, 786-791. [English & French summaries pp. 790-791.]

(514a) In Sicily, metastrongyliasis is widely prevalent in pigs, giving rise to a verminous bronchitis with a distinct anatomic-pathological picture with typical foci of alveolar emphysema, and parasitic nodules, resembling tuberculosis, enclosing erratic adult worms. There are no naked eye or microscopical changes of pneumonic type.

R.T.L.

(514b) In pigs suffering from subchronic or chronic verminous bronchitis, the intrapulmonary smooth muscle fibres of the inter and extra lobular bronchioles, alveolar capillaries and interalveolar septa are hypertrophied and hyperplastic. The tunica muscularis of the medium sized bronchi and of the bronchioles is always atrophied. Casarosa has observed interstitial pneumonia in some cases.

R.T.L.

(514c) The number of hooks of *Cysticercus tenuicollis* varies from 28 to 36. During January to March they average 30 to 34 as a rule. Panebianco considers that the lower numbers and unpaired hooks are associated with a degenerative form of cysticercus.

R.T.L.

(514d) In cattle, hydatid of the heart is frequently single, unilocular and is usually located in the left ventricle.

R.T.L.

(514e) In the majority of sheep suffering from trichostrongyliasis and fascioliasis, there is increased reproductive activity in the marrow of the sternum and a decrease in the red blood corpuscles. R.T.L.

(514f) Papandrea has had to abandon the use of tetrachlorethylene in treating gastrointestinal helminthiasis in sheep by the Ortlepp & Mönning technique. He finds that carbon tetrachloride is ineffective, that the efficacy of cupro-arsenical and cupro-nicotine solutions is dependent on adequate fasting before and after treatment. Phenothiazine assured complete disinfestation in 90% of his cases. R.T.L.

(514g) [This paper appears also in *Zooprofilassi*, 1951, 6, 81-84. For abstract see *Helm. Abs.*, 20, No. 156b.]

515—Beiträge zur Naturkunde Niedersachsens. Osnabrück.

- a. KLIE, W., 1950.—"Der Bluteigel in Niedersachsen." 3 (3), 75-78.

516—Biochimica et Biophysica Acta.

- a. PANIJEL, J., 1950.—"Recherches sur la nature et la signification de la protéine gram du gamète mâle d'*Ascaris megalcephala*." 6 (1), 79-93. [English summary p. 92.]

(516a) Panijel continues his study of the protein complex of the nuclei of the male gametes of *Parascaris equorum*. He finds that this is not a nucleoprotein but an acid protein of high nitrogen content, rich in aspartic acid, linked to purine groups and homogeneous in the electrophoretic test. He has also subjected it to physico-chemical and spectrographic study. S.W.

517—Biological Bulletin.

- a. STUNKARD, H. W., 1950.—"Microphallid metacercariae encysted in *Limulus polyphemus*." [Abstract of paper presented at the Marine Biological Laboratory, August 29-30, 1950.] 99 (2), 347.
b. STUNKARD, H. W., 1950.—"Larval trematodes from the planarian, *Dugesia tigrinum*." [Abstract of paper presented at the Marine Biological Laboratory, August 29-30, 1950.] 99 (2), 347-348.

(517a) [This paper appears in full in *Biol. Bull.*, 1951, 101, 307-318. For abstract see *Helm. Abs.*, 20, No. 366b.]

(517b) Azygiid cystocercous cercariae, shed by the snail *Amnicola limosa*, entered the pharyngeal pockets of *Dugesia tigrinum* but did not encyst or grow. The planarian apparently serves merely as a transfer host. R.T.L.

518—Biológico. São Paulo.

- a. MELLO, M. J., 1950.—"As verminoses do cão." 16 (12), 233-240.

(518a) Mello describes the life-cycle, mode of infection, treatment and prophylaxis of the following helminths which occur in dogs in the State of São Paulo, Brazil: *Ancylostoma caninum*, *A. braziliense*, *Toxocara canis*, *Trichuris vulpis* and *Dirofilaria immitis*. P.M.B.

519—Biologisch Jaarboek.

- a. VERRIEST, G., 1950.—"Contribution à l'étude des hirudinées des eaux douces de la Belgique." 17, 200-243.
b. VERRIEST, G., 1950.—"Note sur la récolte des hirudinées d'eau douce et terrestres, leur fixation et leur conservation." 17, 244-246.

(519a) Verriest gives details of the localities in Belgium from which the following species of fresh-water leeches have been recorded, and of synonymy, from his own work and from a study of the literature: *Glossiphonia complanata* and its subspecies *G. complanata*

concolor, *G. heteroclita*, *Helobdella stagnalis*, *Batrachobdella verrucata*, *Theromyzon tessulatum*, *Hemiclepsis marginata*, *Piscicola geometra*, *Cystobranchus respirans*, *Hirudo medicinalis*, *Haemopsis sanguisuga*, *Erpobdella octoculata*, *E. testacea*, *E. linneata* and *Trocheta subviridis*. There are many diagrams and a table for the identification of fresh water and land species found in Belgium, and a bibliography of 31 references. P.M.B.

(519b) Verriest divides fresh-water leeches into two categories: (i) those which ingest creatures smaller than themselves and (ii) those which, like the land species, are temporary ectoparasites of vertebrates and exist the rest of the time on aquatic plants. He lists the families in each group and gives notes on their collection, fixation in weak ethyl alcohol and preservation in ethyl alcohol or in formalin. P.M.B.

520—Boletim Clínico dos Hospitais Cíveis de Lisboa.

- a. FRAGA DE AZEVEDO, J. & COLAÇO, A., 1950.—“Incidência das parasitoses intestinais e hepáticas em Portugal e seu diagnóstico laboratorial.” 14 (3), 265–312. [English & French summaries p. 312.]

(520a) In this account of the intestinal and hepatic parasites known to infest man in Portugal, Azevedo & Colaço tabulate the incidence of intestinal helminths reported by various authors in different localities between the years 1916 and 1949. No case of clinical trichinellosis appears to have been recorded and only a very few cases of this infection have been revealed even at autopsy or by operation. A brief summary of diagnostic methods for helminth infections is given, including personal experience in the serological diagnosis of hydatid. In a series of tests there was no significant difference in the antigenic power of hydatid fluid from different types of animals or from different organs. It was ascertained that 30 days must elapse between two Casoni tests (unless made subcutaneously with a maximum of 0.2 c.c.), as the first may render an uninfected person sensitive to a second injection if it is given within this time. It is pointed out that serological tests for hydatid are not absolutely specific. Two maps illustrate the distribution of hydatid in domestic animals in Portugal. P.M.B.

521—Boletim de Indústria Animal. São Paulo.

- a. LOPES LEÃO, R., 1950.—“Ascariðoses dos animais domésticos.” New series, 11 (1/2), 163–192.

522—Boletín de Divulgación Ganadera. Valladolid.

- *a. DÍAZ UNGRÍA, C., 1950.—“La fenotiazina en la estrongilosis intestinal de équidos.” 7, 436–440.

523—Boletín Epidemiológico. Mexico.

- a. RUIZ REYES, F., 1950.—“Datos para la exploración clínica del oncocercoso.” 14 (4), 110–115.
 b. RUIZ REYES, F., 1950.—“Autoobservación clínica en oncocercosis.” 14 (4), 116–117.
 c. RUIZ REYES, F., 1950.—“Movimientos de población en relación con las zonas oncocercosas en la República Mexicana.” 14 (4), 118–120.
 d. VÁZQUEZ MARTÍNEZ, S. & MORALES CISNEROS, A., 1950.—“Una experiencia sobre campaña antisimúlido.” 14 (4), 121–122.
 e. NETTEL F., R., 1950.—“Observaciones sobre la cantidad de simúlidos colectados en un lugar de la zona oncocercosa de Chiapas durante la temporada seca.” 14 (4), 123–126.
 f. TORRES MUÑOZ, A. & RUIZ REYES, F., 1950.—“El ‘gammexane’ en la lucha contra los simúlidos. (Nota preliminar.)” 14 (4), 127–129.
 g. VÁZQUEZ MARTÍNEZ, S. & MORALES CISNEROS, A., 1950.—“Acción del hetrazán sobre la microfilaria intranodular.” 14 (4), 130–132.
 h. RUIZ REYES, F., 1950.—“Ensayo terapéutico en la oncocercosis, con Carbilazina y Carbilista.” 14 (4), 133–137.
 i. RUIZ REYES, F., 1950.—“Observaciones con la dietilcarbamazina (hetrazán) en la zona oncocercosa de Oaxaca.” 14 (4), 138–142.

(523a) [This paper is reprinted from *Bol. Ofic. Sanit. pan-amer.*, 1944, 23, 1081–1089. For abstract see *Helm. Abs.*, 13, No. 192a.]

(523c) The seasonal movement of population is considered to play an important part in the spread of onchocerciasis in Mexico. About 10,000 workers go annually to Chiapas for the coffee harvest, from infected areas in that State and from Guatemala, with the result that a centre of onchocerciasis has been established in Chiapas State. From the endemic area of Oaxaca and adjoining States, about 20,000 labourers go to harvest sugar cane and pineapples in the State of Vera Cruz where the *Simulium* vectors are abundant resulting in an extension of the infected zone. The religious centre of Otatitlán, Vera Cruz, is visited by many people each year, causing a further spread of infection. P.M.B.

(523d) Gammexane was applied to all water-courses near the village of Germania in the State of Chiapas, Mexico, every 15 days at a concentration of 1 p.p.m. to test its efficacy against the larvae of *Simulium*, the vector of *Onchocerca volvulus*. The number of *Simulium* caught was reduced from 340 on October 10th 1949, to 40 on February 15th 1950. The corresponding numbers caught at San Cristóbal, a short distance away, where no treatment was used were 396 and 489. The most numerous species was *S. ochraceum*, with *S. callidum*, *S. metallicum* and other [unnamed] species also present. P.M.B.

(523e) [This paper is reprinted from *Rev. Inst. Salubr. Enferm. trop., Méx.*, 1949, 10, 345-353. For abstract see *Helm. Abs.*, 18, No. 476f.]

(523f) [This paper is reprinted from *Rev. Palud. Med. trop., Méx.*, 1949, 1, 69-73. For abstract see *Helm. Abs.*, 18, No. 789a.]

(523g) In 52 cases of onchocerciasis who were treated with hetrazan for ten days at the rate of 6 mg. per kg. body-weight every 24 hours, skin biopsy remained positive in 22% and all nodules contained active microfilariae. In a further 11 cases given two similar courses of hetrazan at an interval of 3-6 months, skin biopsy after treatment was negative in every case, although all nodules contained many active microfilariae. P.M.B.

(523h) In a village in Oaxaca, Mexico, where 40-50% of the population were positive for onchocerciasis, 17 cases were treated with "Carbilazina" (diethyl carbamyl methyl piperazine) a product similar to hetrazan, and 15 cases with "Carbilista" ("Carbilazina" plus an antihistamine). Skin biopsies were negative in every case. The average dose rate used for both drugs was 2 mg. per kg. body-weight twice daily for ten days. Although both drugs are practically non-toxic, "Carbilista" is slightly preferred owing to its antihistamine properties. Surgical removal of the nodules containing adult *Onchocerca volvulus* is necessary before administration of the drugs. After treatment a further course of either drug two or three times a year is advised. As a preventive, personnel working on these tests took a dose of one of the drugs every three days. The drugs were also found to have an anthelmintic action against *Ascaris* and hookworm. P.M.B.

(523i) [This paper is reprinted from *Medicina. Revista Mexicana*, 1950, 30, 225-230. For abstract see *Helm. Abs.*, 19, No. 359a.]

524—Boletín de Información. Colegios Veterinarios de España.

- a. LIZCANO HERRERA, J., 1950.—"Estrongilosis intestinales equinas." *Suplemento Científico*, 4 (19), 285-318; (20), 397-411.
- b. GONZÁLEZ ALVAREZ, R., 1950.—"La preadaptación como explicación biológica del parasitismo." *Suplemento Científico*, 4 (19), 329-333.

(524a) Concise descriptions and line drawings are given of 14 known strongylid species which have now been found in horses in Spain for the first time. Results of treatment with mixtures of phenothiazine and bentonite are discussed. R.T.L.

525—Boletín Informativo. Chinchiná, Colombia.

- a. ANON., 1950.—“Nemátodos prosperando en colonias de un hongo del género *Penicillium*.” No. 9, pp. 38-39.

(525a) In the course of experiments with coffee root samples to ascertain the cause of a disease affecting coffee trees in the Magdalena Department of Colombia, a number of living nematodes were found in association with *Penicillium* colonies in an artificial culture medium.

P.M.B.

526—Boletín del Instituto de Clínica Quirúrgica. Universidad de Buenos Aires.

- a. LANDÍVAR, A. F., 1950.—“Equinococosis hidatídica del hueso coxal.” 26 (190), 159-175.

527—Boletín Mensual. Dirección de Ganadería, Montevideo.

- a. RODRÍGUEZ GONZÁLEZ, M., 1950.—“Triquina y triquinosis.” 31 (1), 233-235.
 b. ANON., 1950.—“Se crea una comisión para la lucha contra la hidatidosis.” 31 (1), 236-237.
 c. POU, M. C. & RODRÍGUEZ GONZÁLEZ, M., 1950.—“Sobre evolución de *Taenia saginata*.” 31 (4), 432-434.
 d. CASSAMAGNAGHI, Jr., A. & BIANCHI BAZERQUE, A., 1950.—“Helmintología aviar. Ornithostrongylosis—localización pulmonar por *Tetrameres* en columbidos del Uruguay.” 31 (4), 435-440.

(527c) Although *Taenia saginata* is common in Uruguay, the known incidence of *Cysticercus bovis* is very low. Pou & Rodríguez González failed to produce infections in two young cattle by feeding them with segments of *T. saginata*.

R.T.L.

(527d) The occurrence of *Ornithostrongylus quadriradiatus* in Uruguay is reported for the first time. A carrier pigeon (*Columba livia*) from Salto was intensely infected. An epizootic in carrier pigeons involving a mortality of 16.6% was due to the presence of mature females of *Tetrameres* [sp.?] encysted in the parenchyma of the lungs.

R.T.L.

528—Boletín de la Sociedad de Cirugía del Uruguay.

- a. LIESEGANG, W., 1950.—“Consideraciones sobre la hidatidosis.” 21 (1), 64-70.
 b. CAMPO, J. C. DEL, 1950.—“Quistes hidáticos calcificados del hígado.” 21 (2), 143-151. [Discussion pp. 151-153.]
 c. ARMAND UGÓN, C. V., 1950.—“Quiste hidático del pulmón. Resultados operatorios.” 21 (3), 227-233. [Discussion pp. 233-234.]
 d. ARDAO, H., 1950.—“El quiste hidático del hígado fistulizado en los bronquios. Estudio anatómico.” 21 (3), 235-240. [Discussion pp. 240-244.]
 e. SUÁREZ, H. & VICTORICA, A., 1950.—“Tratamiento de los tránsitos hidáticos hepato-pulmonares transdiafragmáticos.” 21 (3), 245-263. [Discussion pp. 263-264.]
 f. CAMPO, J. C. DEL, 1950.—“Equinococosis secundaria local en un quiste hidático del pulmón operado.” 21 (3), 265-270.
 g. LARGHERO YBARZ, P., 1950.—“Equinococosis heterotópica pleural.” 21 (3), 271-276.
 h. LARGHERO YBARZ, P., 1950.—“Equinococosis secundaria del peritoneo a topografía exclusivamente epiploica.” 21 (3), 277-280.
 i. LARGHERO YBARZ, P., 1950.—“Quiste hidático calcificado implantado en aurícula derecha y venas cavas y a crecimiento en el espacio cisural del pulmón derecho.” 21 (3), 281-287.
 j. STAJANO, C., 1950.—“Variables reacciones vaso-motrices reflejas del parénquima pulmonar, en el tratamiento del quiste hidático del pulmón por el método Lamas y Mondino.” 21 (5), 592-595.

529—Boletines y Trabajos. Academia Argentina de Cirugía.

- a. BELLEVILLE, G., 1950.—“Hidatidosis hepática y peritoneal secundaria.” 34 (7), 244-245.
 b. BREA, M. M. J., SANTAS, A. A. & MARTÍNEZ, J. L., 1950.—“Hidatidosis pulmonar. Tratamiento quirúrgico.” 34 (8), 294-308.
 c. BELLEVILLE, G. I., PASMAN, R. E. & GOÑI MORENO, I., 1950.—“Hidatidosis pulmonar. Tratamiento quirúrgico.” 34 (9), 315-324.
 d. BREA, M. M. J., 1950.—“Hidatidosis pulmonar. Tratamiento quirúrgico.” 34 (10), 349-351.
 e. BUSTOS, F. M., 1950.—“Hidatidosis pulmonar. Tratamiento quirúrgico.” 34 (10), 358-359.
 f. FERNICOLA, C., 1950.—“Hidatidosis pulmonar. Tratamiento quirúrgico.” 34 (11), 393-394.

- g. ALLENDE, J. M., 1950.—"Hidatidosis pulmonar. Tratamiento quirúrgico." 34 (11), 404-408.
- h. BREA, M. M., & SANTAS, A. A., 1950.—"Hidatidopleura de origen hepático." 34 (12), 455-472.
- i. JORGE, J. M., BUSTOS, F. M. & VALLE, D. DEL, 1950.—"A proposito de hidatidosis pulmonar. Tratamiento quirúrgico." 34 (13), 476-481.
- j. BELLEVILLE, G. I., 1950.—"Hidatidopleura de origen hepático." 34 (13), 490-492.
- k. BREA, M. J., 1950.—"Hidatidosis pulmonar." 34 (15), 537-542.
- l. BUSTOS, F. M., 1950.—"Sobre terapéutica biológica de la hidatidosis. (Observación de un caso tratado durante siete años.)" 34 (19), 671-672.
- m. BELLEVILLE, G. I., 1950.—"Terapéutica biológica de la hidatidosis. Observación de un caso tratado durante siete años." 34 (20), 693-698.
- n. BUSTOS, F. M., 1950.—"Sobre terapéutica biológica de la hidatidosis. (A propósito de un caso observado durante 7 años.)" 34 (21), 757-758.
- o. BREA, M. M. J., 1950.—"Hidatidosis pulmonar múltiple. Operación de V. Pérez Fontana." 34 (21), 787-788.
- p. CASIRAGHI, J. C. & BELLEVILLE, G. I., 1950.—"Equinococosis vertebral. Estudio clínico-radiológico, diagnóstico-terapéutico y casuístico." 34 (23), 835-846.

530—Boletines y Trabajos. Sociedad de Cirugía de Córdoba.

- *a. SONZINI ASTUDILLO, C. P. & VERNA, J. F., 1950.—"Lobectomy por quiste hidatídico supurado en una embarazada." 11, 50-62.

531—Bollettino Chimico-Farmaceutico.

- a. SANNA, G. & MARCHI, A., 1950.—"Sui metodi di dosaggio dell'ascaridolo nell'olio di chenopodio." 89 (11), 447-455.

532—Bollettino della Società di Naturalisti in Napoli.

- a. PARENZAN, P., 1950.—"Cenurosi mortale de *Taenia serialis* in *Tachyoryctes* e cenni sulle cenurosi umane." 58, 77-80.

(532a) *Coenurus* cysts of *Taenia serialis* were present in a rodent, *Tachyoryctes ruddi*, found dying in Kenya. The cysts measured 12-22 mm. and averaged 16 mm. in diameter and each contained 60 to 120 scolices.

R.T.L.

533—Bollettino di Zoologia.

- a. BEVACQUA, R., 1950.—"Ulteriori ricerche statistiche sull'infestazione da *Trichuris trichiura* L. e da *Ascaris lumbricoides* L. della popolazione milanese." Supplemento, 17 (2), 609-615.

534—British Journal of Ophthalmology.

- a. RIDLEY, H. & ANDERSON, J., 1950.—"A case of onchocerciasis in London and its treatment with hetrazan." 34 (11), 688-690.

(534a) A District Officer on leave in London from Northern Nigeria had complained for two months of a prickling sensation in the eyes and of photophobia. There were a number of punctate opacities in both cornea and a history of transient attacks of irritable oedema in the limbs. There were no subcutaneous nodules or any microfilariae in skin snips, but a living microfilaria of *Onchocerca volvulus* was found in a conjunctival snip. Hetrazan in increasing doses was given, preceded by the antihistamine phenergan to prevent the brisk reactions reported by many authors. Increased oedema, a small papular urticaria, oedema of the arms, legs and face, and increased photophobia with fever up to 100°F. were noted. The eosinophilia of 24% remained constant. The reactions subsided after eight days. One month after commencement of treatment the patient thought himself normal but the corneal opacities remained. Doses of 150 mg. of hetrazan hydrochloride thrice daily, were continued for a total period of ten weeks.

R.T.L.

535—British Journal of Surgery.

- a. HOWARTH, V. S., 1950.—"Renal hydatid disease." 38 (149), 38-43.

536—Bulletin de l'Académie Vétérinaire de France.

- a. GUILHON, J., 1950.—"Thiodiphénylamine disulfonate de calcium et strongyloses gastro-intestinales." 23 (9), 477-480.

(536a) Guilhon has tested the anthelmintic efficacy of calcium thiodiphenylamine disulphonate in 2% and 10% aqueous solutions. He finds that doses of 0.02-0.03 gm. per kg. body-weight, given intravenously, are ineffective against horse strongyles. In sheep, doses of 0.05 gm. per kg. body-weight have little or no effect on the parasites. The substance is extremely toxic and caused fever and a serious drop in the number of blood corpuscles which resulted in death in a number of the animals used, even when they were in good condition at the beginning of the experiment. The 2% solution appears to be more toxic than the 10% solution. S.W.

537—Bulletin Agricole du Congo Belge.

- a. DYCK, F. VAN, 1950.—"Comment réduire la laderie bovine dans l'Ituri." 41 (2), 437-441. [Flemish summary p. 441.]
 b. DEVOCHT, J., 1950.—"Oversichtelijke studie der huidige kennis van de Afrikaanse olifant." 41 (2), 442-462. [French summary pp. 461-462.]

(537a) Van Dyck reports that 70% of the meat which was examined in a small scale inspection near Bunia in the district of Ituri, Belgian Congo, was infected with *Cysticercus cellulosae*. A loss of two million francs to the local meat traders is estimated for 1948, due to the quantity of meat which was unfit for sale. P.M.B.

(537b) There was a mortality of 50% in young elephants during the first year after their capture for the purpose of domestication in the Belgian Congo. The various diseases are briefly described. The helminths are mentioned only in a list of 32 species which have been recorded in the literature as having been found in the African elephant. R.T.L.

538—Bulletin. Department of Agriculture, Union of South Africa.

- a. KOTZE, J. J. J., 1950.—"Sheep farming in the sour-grassveld area. (i) Influence of the lambing season; (ii) mineral licks and dosing for internal parasites." No. 294, iii+36 pp.

539—Bulletin de l'Institut Royal des Sciences Naturelles de Belgique.

- a. SCHUURMANS STEKHOVEN, Jr., J. H., 1950.—"Etudes biospéologiques. XXXIII. Nématodes des grottes et des eaux souterraines de Roumanie." 26 (61), 3 pp.

(539a) Twelve samples of water collected from subterranean grottoes in Rumania were sent to Schuurmans Stekhoven who found a few specimens of the following nematodes in 10 of them, viz., *Dorylaimus obtusicaudatus* in six, *Dorylaimus stagnalis* in one, *Tripyla glomerans* in one, and *Mermis elegans* in two. T.G.

540—Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris.

- a. HILLEMANT, P., GILBRIN, E. & TOULET, J., 1950.—"Un cas d'échinococcose alvéolaire suivi pendant vingt-cinq ans avec foyers secondaires abdominaux disséminés." 4e Série, 66 (27/28), 1458-1463.
 b. DUROUX, A., TABUSSE & MARTY, J., 1950.—"L'échinococcose métastatique pulmonaire. (A propos d'une observation anatomo-clinique)." 4e Série, 66 (29/30), 1501-1508.
 c. THIODET, J., FOURRIER, A., CHEVROT, L. & MASSONNAT, J., 1950.—"Echinococcose pulmonaire et ostéo-arthropathie hypertrophique pneumique de Pierre Marie." 4e Série, 66 (33/34), 1769-1776.

541—Bulletin de la Murithienne.

- a. ALTHERR, E., 1950.—"De quelques nématodes des garides valaisannes." Fasc. 67, pp. 90-103.

(541a) Altherr reports on the free-living nematodes which he collected from moor soils in Valais, Switzerland. He describes and figures a number of species of which the following five appear to be new: *Labronema octodurensis* n.sp., *Pungentus mariatani* n.sp.,

Nygalaimus paraamphigonius n.sp., *Longidorella murithi* n.sp. and *Alaimus mucronatus* n.sp. On pp. 97-98 he synonymizes the subgenus *Pungentoides* Altherr, 1950 [see Helm. Abs., 19, No. 311a] with *Dorylaimellus* Cobb, 1913, making his *P. buffalorae* = *Dorylaimellus virginianus* Cobb, 1913. He also points out that the two other species which he placed in *Pungentoides*, viz., *P. fuorni* and *P. engadinensis* require the examination of fresh specimens before their final status can be established. T.G.

542—Bulletin. New Zealand Department of Agriculture.

- a. WHITTEN, L. K., 1950.—“Liver-fluke of sheep and cattle.” No. 248, 7 pp.

543—Bulletin de l'Office International des Épizooties.

- a. PELLEGRINI, D., 1950.—“Le *Cysticercus dromedarii* du chameau et des bovins (Pellegrini, 1945) et le *Taenia hyaenea* correspondant de l'hyène (Baer, 1927).” 33 (1/2), 21-27.
 b. FRITZSCHE, K., 1950.—“Nouvelles médications antiparasitaires chez les animaux domestiques.” 34, 143-156.
 c. ROTH, H., 1950.—“Nouvelles expériences sur la trichinose avec considérations spéciales sur son existence dans les régions arctiques.” 34, 197-220.
 d. KINGSCOTE, A. A., 1950.—“La trichinose dans la région arctique boréale.” 34, 221-222.
 e. TRAWINSKI, A., 1950.—“La trichinose.” 34, 223-228.

(543a) [This is a French translation of a paper published in *Riv. Parassit.*, 1949, 10, 237-243. For abstract see Helm. Abs., 18, No. 486c.]

(543b) Recently introduced methods for the treatment of ecto- and endo-parasites of domestic animals are briefly summarized. The anthelmintics mentioned are carbon tetrachloride alone or combined with filix mas for *Fasciola hepatica*, foudadin for *Dicrocoelium dendriticum* and phenothiazine for strongyles in horses. The latter has not yet been adopted by French veterinarians to the extent which it merits. While three doses of 10 gm. of this can safely be given to goats, one dose of 30 gm. may give rise to undesirable symptoms. For *Enterobius*, none of the preparations given by the mouth give good results but anal ointments, with phenothiazine or benzene hexachloride incorporated, destroy the hatched larvae and so prevent reinfection. For metastrongyles antimosan or iodine solutions are not satisfactory. There are no recent advances in the treatment of cestode infections of domestic animals, but products incorporating arecoline and filix mas are of value. Fritzsche states that the treatment of ascarids is based on oil of chenopodium alone or with carbon tetrachloride [there is no reference to fluoride preparations] and more recently good results have been obtained with “Mandaverm”. For poultry carbon tetrachloride and phenothiazine are effective. “Vermexan” and “Gammaverm” which have been introduced recently for medical and veterinary use incorporate benzene hexachloride. R.T.L.

(543c) Roth reviews the geographical distribution and methods of diagnosis of trichinosis. Reference is made to the role of the fox and, to a lesser extent, of the badger, bear and wild pig as reservoir hosts in many European countries, and to foxes and weasels bred for fur especially in Norway and Sweden. Trichinosis is absent in Finland and has been almost eliminated from Denmark. During the years 1948-1950, 1,489 samples of flesh from 22 different species of mammals from Greenland and the surrounding seas, examined in Copenhagen, yielded the following positive results: 151 out of 227 dogs (66.5%), 31 out of 112 polar bears, *Thalarctos maritimus* (27.7%), 3 out of 264 Arctic foxes, *Alopex lagopus* (1.1%), 2 out of 207 walruses, *Odobenus rosmarus* (0.9%), 1 out of 56 seals, *Erignathus barbatus* (1.8%) and 1 out of 52 seals, *Phoca hispida* (1.9%). The low incidence in walruses is unexpected, as the eating of walrus meat was formerly thought to be the principal cause of human infection in western Greenland; in one case, however, 1,200 trichinae per gm. of meat were present. By far the highest incidence in man and dogs is in the west of Greenland, but the disease also occurs in the east, especially in dogs. Where there was evidence of repeated invasions of trichinae in the same host, the earliest infections were the most numerous, confirming that a degree of immunity develops later. Examination

of fragments of flesh attached to 25 skins originating from Arctic regions and kept in a Copenhagen museum, shows that trichinosis has existed in the Arctic for many years. The disease has also been reported in recent years in Siberia (Bering Strait), Franz Josef Land, Spitsbergen, Alaska and Southampton and Somerset Islands (North Canada). The spread of the disease in the Arctic regions, although rapid is thought to be checked to some extent by the natural freezing of meat, much of which is eaten raw or only partly cooked.

P.M.B.

(543d) Kingscote reports that many samples of flesh from foxes and weasels from fur farms in Canada were all negative for trichinosis. The animals had been fed only on beef, horse flesh and fish.

P.M.B.

(543e) Trawiński enumerates the domestic and wild animals which are hosts of *Trichinella spiralis* and describes the diagnosis of trichinosis in man by means of his sero-allergic test [for abstract see Helm. Abs., 16, No. 273i]. For the examination of pig carcasses he advocates a precipitin test, in which the antigen is used with an extract prepared by soaking 5 gm. of the chopped meat in 10 c.c. salt solution for eight hours at normal temperature and then filtering the liquid until clear. This test is claimed to detect even a very light infection. Trawiński urges the more stringent application of prophylactic measures. P.M.B.

544—Bulletin der Schweizerischen Akademie der Medizinischen Wissenschaften.

- a. JETTMAR, H. M., 1950.—"Zur Epidemiologie der Ascariasis und Trichuriasis." 6 (5/6), 391-406. [English, French & Italian summaries pp. 404-405.]

(544a) Jettmar reports that of 1,325 children examined in Styria (Austria), from both urban and rural areas, 224 (16.9%) showed *Ascaris* infection and 182 (13.73%) *Trichuris* infection. The infection rates for boys and girls were approximately the same. *Ascaris* infection was less frequent in the northern mountainous districts. A series of experiments carried out at the Graz Institute of Hygiene to determine the best means of destroying *Ascaris* ova is also described. Ova are very resistant to anthelmintics, the common disinfectants, and to cold but are extremely sensitive to heat: they are killed in one second by hot water at 70°C., in two seconds at 65°C., in five seconds at 60°C. and in 50 seconds at 55°C. The periodical washing of yards with hot water and the use of hot water on soils likely to be infected is recommended as a control measure.

A.E.F.

545—Bulletin de la Société Neuchâteloise des Sciences Naturelles.

- a. DUBOIS, G. & RAUSCH, R., 1950.—"Troisième contribution à l'étude des strigeïdes (Trematoda) nord-américains." 73, 19-50.
 b. JOYEUX, C. & BAER, J. G., 1950.—"Sur quelques espèces nouvelles ou peu connues du genre *Hymenolepis* Weinland, 1858." 73, 51-70.
 c. JOYEUX, C. & BAER, J. G., 1950.—"Le genre *Gyrocotylodes* Fuhrmann, 1931 (Cestodaria)." 73, 71-79.

(545a) In their third paper on the north American strigeïds Dubois & Rausch record seventeen species of which twelve belong to the Strigeidae and five to the Diplostomatidae. Three new species and two new varieties are described and illustrated, namely, *Apharyngostrigea tenuis* n.sp. from *Botaurus lentiginosus lentiginosus*, *Parastrigea campanula* n.sp. from *Accipiter cooperi*, *P. ogchnocephala* n.sp. from *A. gentilis*, *Strigea sphaerula macrosicya* n.var. from *Corvus corax principalis*, and *Apatemon gracilis canadensis* n.var. (which the authors described in 1948 from *Branta canadensis canadensis*) from *Polysticta stelleri*. The diagnoses of the genera *Parastrigea* and *Fibricola* are emended and there are keys to their species. *Apatemon minor* is considered to be a variety or subspecies of *A. gracilis*, *Cotylurus aquavis* to be a synonym of *C. erraticus*, and *Neodiplostomum spathula elongata* to be a synonym of *N. banghami* which itself is believed to be a subspecies of *N. spathula*. *Fibricola laruei* and *F. nana* become synonyms of *F. cratera* and there is a table setting out the variations of this species in different hosts. There are also descriptions and figures of the other species collected.

S.W.

(545b) Joyeux & Baer describe from Central France *Hymenolepis railletii* n.sp. from *Crocridura russula*, and *H. pseudorostellata* n.sp. from *Gavia immer* at Neuchâtel. They distinguish *H. railletii* from *H. nagatyti* by the shape of the rostellum, and *H. pseudorostellata* from *H. rostellata* by the size and shape of the hooks. Twelve other species are briefly described and illustrated. They recognise only six species of this genus in grebes and provide a key for their diagnosis. R.T.L.

(545c) Joyeux & Baer are of the opinion that *Gyrocotyloides* Fuhrmann, 1931 is a valid genus and not, as suggested by Lynch, based on aberrant forms of *Gyrocotyle*. They describe in detail and illustrate *Gyrocotyloides nybelini* Fuhrmann from *Chimaera monstrosa* and define the genus; this is distinguished from *Gyrocotyle* by the absence of cuticular spines, the presence at the posterior end of the body of a long contractile cylindrical portion ending in a strong sphincter muscle, and by a number of other characters. The authors also found, as did Fuhrmann, a number of encapsulated larvae in the anterior part of the body in front of the male opening but there is insufficient evidence to say if this is a normal stage in their development or if they had become misplaced. S.W.

546—Bulletin de la Société Zoologique de France.

- a. ARVY, L., 1950.—"Présentation de documents relatifs à l'azoospermie par cysticerose chez *Microtus arvalis* Pallas." 75 (4), 195-197.
- b. TIMON-DAVID, J., 1950.—"Un cyclocoelidé nouveau dans les sacs aériens de la pie, *Cyclocoelum* (*Pseudhyptiasmus*) *dollfusi* nov. sp." 75 (5/6), 243-246.
- c. CHABAUD, A. G. & BLOCCA, E., 1950.—"Description de *Metathelazia servalis*, n.sp. et observation sur le genre *Metathelazia*." 75 (5/6), 260-267.

(546a) The condition of azoospermia present in a *Microtus arvalis* infected with cysticerci is attributable not to toxic action but to mechanical pressure on the vas deferens and epididymis. R.T.L.

(546b) Timon-David describes and figures *Cyclocoelum* (*Pseudhyptiasmus*) *dollfusi* n.sp. from the diverticula of the thoracic air sacs of a *Pica pica* killed at Tholonet near Aix-en-Provence. Cyclocoeloidea are rare in France and no Cyclocoelidae have hitherto been reported from this bird. *C. (P.) dollfusi* n.sp. resembles *C. bivesiculatum* but differs in its greater size, in the form of the bladder which has two independent pouches, and in the relative dimensions of the ovary and testes. R.T.L.

(546c) *Metathelazia servalis* n.sp. which occurred in the lungs of *Felis serval* from Somaliland presents characters intermediate between the Metastrongyloidea and the Spiruroidea. It does not possess the ventro-lateral papillae characteristic of the former. The presence of a sphincter in the ovjector excludes it from the latter as defined by Dougherty (1949). Its pulmonary habitat is attributable to convergence. *M. oesophagea* is reported from *Herpestes ichneumon* in Somaliland. R.T.L.

547—Bulletin of the State Institute of Marine and Tropical Medicine in Gdańsk, Poland.

- a. KOZAR, Z., 1950.—"Epidemiological studies on oxyuriasis (enterobiasis) in the Children's Home in Gdańsk." 3 (1/2), 73-84.
- b. GAUGUSCH, Z., 1950.—"Contribution to studies of the resistance of *Cysticercus cellulosae*." 3 (1/2), 85-87.

(547a) Kozar investigated the occurrence of *Enterobius vermicularis* over a period of eight months in the inhabitants of a Children's Home in Gdańsk, where the incidence reached 90%. He considers that six negative NIH swabs are necessary before a negative result can be confirmed. Of the 16 children who were apparently uninfected, 10 were aged 3-7 years. From a study of the modes of infection in this institution, Kozar concludes that the greatest number of infections were acquired by dust-borne ova entering the respiratory tract; retroinfection was apparently rare. When the faeces of the children were

examined by the flotation method with a saturated salt solution the helminth incidence found was *Enterobius vermicularis* 13.3%, *Ascaris lumbricoides* 28.4 % and *Trichuris trichiura* 25.3%.

P.M.B.

(547b) Gaugusch describes the effects of low temperatures and of standard salt solutions on the survival of *Cysticercus cellulosae* in a massively infected pork ham. The viability of a number of cysticerci was first ascertained by a modification of Müller's method, viz., specimens were placed in a 50% solution of pig's bile in physiological saline to which pig's gastric juice was added, and the whole placed in an incubator at 41°-42°C. Two further 1 kg. samples were then subjected to refrigeration and five to ten cysticerci from each sample were examined daily by the above test; at 0°C. to -2°C. some cysticerci survived for 53 days and at -5°C. none survived for more than 6 days. Two other samples were injected with brine and placed in tanks of brine as in the bacon process; by the fourth day all the cysticerci examined were dead but undamaged. In another sample in which putrefaction was induced by keeping at a temperature of 18°C. to 20°C. the cysticerci remained viable for 26 days.

P.M.B.

548—Bulletin of the Tulane Medical Faculty.

- a. BEAVER, P. C. & JUNG, R. C., 1950.—"Diagnosis and treatment of pinworm infection (enterobiasis)." 9 (2), 44-47.

549—Byulleten Moskovskogo Obshchestva Ispitatelei Prirodi. Otdel Biologicheski.

- *a. ALPATOV, V. V., 1950.—[The coincident occurrence of malignant neoplasms with the intestinal parasites.] 55 (3), 46-50. [In Russian.]

550—Cahiers Médicaux de l'Union Française. Algiers.

- a. BLANC, F. & TOUZIN, R., 1950.—"La splénomégalie égyptienne. A propos d'une observation de splénomégalie égyptienne à *Schistosoma haematobium*." 5 (41), 487-523.
b. SEROR, J., 1950.—"Pseudo-syndrome de Meigs d'origine hydatique." 5 (42), 557-559.
c. FLOCH, H. & ABONNENC, E., 1950.—"Sur la présence de *W. bancrofti*, de *M. ozzardi* et de *A. perstans* en Guyane française." 5 (43), 623-626.

(550a) [This paper appears also in *Méd. trop.*, 1950, 10, 201-252. For abstract see *Helm. Abs.*, 19, No. 353c.]

(550c) [This paper appears also in *Publ. Inst. Pasteur Guyane*, 1949, No. 198. For abstract see *Helm. Abs.*, 18, No. 751a.]

551—Calcutta Medical Journal.

- a. ANON., 1950.—"The new filaricide." 47 (10), 328-330.

(551a) [This editorial is a brief account of the discovery of hetrazan, its use and effects.]

552—Canadian Journal of Public Health.

- a. TAYLOR, J. A. & RIDDELL, W. A., 1950.—"Entozoa of children in two Regina institutions." 41 (11), 471-475.
b. BROWN, M., GREEN, J. E., BOAG, T. J. & KUITUNEN-EKBAUM, E., 1950.—"Parasitic infections in the Eskimos at Igloolik, N.W.T." 41 (12), 508-512.

(552a) Of 60 children examined by NIH swab at two [unnamed] welfare institutions in Regina, Saskatchewan, the incidence of *Enterobius vermicularis* based on five swab examinations was 20%. No other helminth eggs were recorded.

R.T.L.

(552b) Examination, on one occasion only, by NIH swab of a group of Eskimos at Igloolik in the Northwest Territories of Canada showed a high incidence of *Enterobius vermicularis*. Of 40 males of various ages, 16 were positive and of 20 females, all under

fourteen years of age, four were positive. The faeces of 32 out of 97 persons showed *Diphyllobothrium* eggs. In skin tests with "Trichinella Extract Lederle", 18 gave a markedly positive and 12 a mildly positive reaction. The serum of 101 persons gave 28 positive and 15 slightly positive precipitin reactions with living *Trichinella* larvae. R.T.L.

553—Cardiologia.

- a. HALONEN, P. I. & KOSKIMIES, A., 1950.—"Electrocardiographic changes in connection with the anthelmintic use of filicine." 17 (1), 1-7. [French & German summaries p. 6.]

(553a) The electrocardiographic changes observed in 8 out of 22 patients in 2 to 4 hours after the administration of filicine for the elimination of *Diphyllobothrium latum*, were depression of the RS-T interval and depression or inversion of the T-wave, in at least one of the leads. Filicine should be administered to elderly persons with caution. R.T.L.

554—Časopis Českého Lékárnictva. Vědecká Příloha.

- a. PETRU, M., 1950.—"Účín některých látek na hlísty in vitro." 63 (9/12), 265-277. [English, French & Russian summaries pp. 275-277.]

(554a) As a guide to their potential value as anthelmintics, Petru has studied the action of a number of chemotherapeutic substances on the earthworms *Eisenia foetida* and *Enchytraeus albidus*, muscle preparations of *Hirudo medicinalis*, and *Ascaris lumbricoides*, and has recorded their reactions by kymograph. The antibiotics aureomycin, patulin, penicillin, streptomycin, subtilin and thyrotricin did not produce any toxic effect on *Ascaris lumbricoides* when used in chemotherapeutic doses. DDT and its bromine derivative similarly had no effect. Gammexane and chloreton was remarkably toxic to the leech preparation and hexachlorethane gave prolonged irritation. As the solubility of gammexane is low, as is also its toxicity to vertebrates, Petru concludes that it fulfils the requirements of an anthelmintic. Hetrazan in chemotherapeutic doses did not affect the time of survival but interfered with spontaneous contractions of the innervated muscle preparations. The action of atebirin on the leech muscle justifies the supposition that the clinical effect is not accidental and that it acts, partly at least, directly on the contractile elements of the muscle cell. The experiments with hexylresorcinol, tetrachlormethane and thymol confirm the results obtained by previous workers. Petru's general conclusion is that the anthelmintics are represented by highly chlorinated hydrocarbons and in some cases show a very high phenol coefficient. R.T.L.

555—Časopis Československých Veterinářů.

- a. NOVÁKOVÁ, E., 1950.—"Syngamosa u lovného bazanta (*Phasianus colchicus* L.) v době odstřelu." 5 (13), 301-306. [French summary pp. 303, 305.]
 b. SZAFLARSKI, J., 1950.—"Zastosowanie próby alergicznej—śródkórno powiekowej w diagnostyce chorób pasożytniczych u zwierząt." 5 (22/23), 543-547.

(555a) *Syngamus trachea* is reported from 11 out of 4,904 pheasants killed in Bohemia and Moravia. The nematodes were found only during October and the first week in November; they did not appear to affect the weight of the birds. P.M.B.

(555b) [This paper is also published in *Méd. vét., Varsovie*, 1950, 6 (10), 585-589. For abstract see *Helm. Abs.*, 19, No. 362i.]

556—Časopis Lékařů Českých.

- a. POKORNÝ, M. & KLAUSOVÁ, L., 1950.—"Eosinofilní plicní infiltrát." 89 (46), 1297-1300. [English & Russian summaries pp. 1299-1300.]

(556a) In Czechoslovakia ascariasis is the most frequent cause of eosinophilic pulmonary infiltrations characterized by the finding by X-ray of a soft, usually solitary infiltration accompanied by eosinophilia and a rapid absorption of the infiltration. Two cases are reported. In one the diagnosis was confirmed by stool examination and positive

skin test; in the other the skin reaction was strongly positive although there were no eggs in the faeces.

R.T.L.

557—Ceylon Journal of Medical Science.

- a. SCHMID, E. E. & DASSANAYAKE, W. L. P., 1950.—“Local eosinophilia in thick drops around microfilaria of *W. bancrofti*.” 7 (2), 62–65.
- b. CULLUMBINE, H., 1950.—“An analysis of the vital statistics of Ceylon.” 7 (3/4), 91–272.

(557a) In 42 out of a total of 52 cases, Schmid & Dassanayake observed a distinct local eosinophilia around the microfilariae in thick-drop preparations, haemolysed and stained with Leishman's stain, of blood from patients suffering from filarial infection due to *Wuchereria bancrofti*, in the urban areas of Ceylon. On the evidence of the distribution of the eosinophil leucocytes around the microfilariae in 25% of the positive cases, it is assumed that it is an attracting effect of the microfilariae which causes the eosinophilia. H.C.

(557b) In Ceylon from 1937 to 1948, the number of deaths annually per million of population from ancylostomiasis and other helminth diseases (as set out in tables 112 and 113 of this statistical monograph) shows a gradual decline in the incidence of helminthiasis since 1945–46.

R.T.L.

558—Chinese Medical Journal. Shanghai.

- a. CHEN, H. H. & WU, P. N., 1950.—“Incidence of intestinal helminthiasis in the Wu-Chia-Ling area and vicinity, Changsha, Hunan. With special reference to fasciolopsiasis buski.” 68 (5/6), 173–176.
- b. HOEPLI, R., 1950.—“Some rare forms of human parasitic infection of interest to the physician in China.” 68 (7/8), 221–238.

(558a) There is a small endemic centre of *Fasciolopsis buski* infection at Wu-Chia-Ling near Changsha, Hunan. Of the population of 632, 90% are engaged directly or indirectly in farming, particularly in the growing of water caltrop which is all used locally. The possibility that water bamboo, which is grown locally and sold at Changsha, may also be infested with metacercariae is being investigated. The molluscan hosts are *Planorbis* sp. and *Segmentina* sp. Examination of the faeces of 156 of the inhabitants of Wu-Chia-Ling showed that 59 (37·8%) had fasciolopsiasis buski. Where there is less farming in the surrounding district up to two miles away, 19 out of 410 (4·6%) were infected; 75% of all cases were children 6–15 years of age. Other infections were: (i) hookworm: 7·1% in Wu-Chia-Ling, 3·7% in the less agricultural surrounding district and 0·9% in Changsha City; 82·1% of the infections were in the male and 17·9% in the female population; (ii) *Ascaris lumbricoides*: over 80% and highest in children under 15; (iii) *Trichuris trichiura*: up to 14·1%; of these 75·3% were children 6–15 years of age; (iv) *Strongyloides stercoralis*: only one case is reported from 744 examinations.

P.M.B.

(558b) Hoepli has culled from medical literature examples of rare types of parasitic infections which may cause difficulties in diagnosis to Chinese physicians. Among those cited are heavy infections with *Ascaris* and with *Hymenolepis*; urinary invasion by the soil nematodes *Rhabditis pellio* and *Rhabditella axei* which may be confused with *Strongyloides* larvae, and by leeches; creeping eruption due to *Ancylostoma braziliense* and *Gnathostoma* sp. larvae, and ocular lesions due to hydatid, cysticerci, spargana, *Gnathostoma* and *Thelazia callipaeda*.

R.T.L.

559—Chirurg. Berlin.

- a. LEMBCKE, W., 1950.—“Das Oxyurengranulom.” 21 (1), 57–58.
- b. HUECK, H., 1950.—“Ein seltener Fall von Leberechinococcus.” 21 (8), 495–497.
- c. ZETTEL, H., 1950.—“Echinokokkose der Bauchhöhle mit schwerer Nierenschädigung.” 21 (9), 550–553.

(559a) Lembcke reports the finding of *Enterobius* ova in nodules excised from the peri-anal region of a four-year-old girl.

A.E.F.

560—Circular. Clemson Agricultural College, South Carolina.

- a. GRAVES, J. T., 1950.—“Prevention and control of beef cattle diseases and parasites.” No. 351, 11 pp.

561—Circular. University of Florida Agricultural Experiment Station.

- a. EMMEL, M. W., 1950.—“Intestinal roundworms and tapeworms of poultry.” No. S-24, 4 pp.

562—Clínica y Laboratorio.

- a. DÍEZ APARICIO, J. L. & PRASA BERNARDO, M., 1950.—“Quiste hidatídico del mesoapéndice.” 50 (297), 432-437.

563—Clinica Nuova. Rome.

- a. PROTO, M., 1950.—“Perforazione intestinale da ascaridi lombricoidi.” 10 (14), 593-598.

564—Compte Rendu Sommaire des Séances de la Société Géologique de France.

- a. DOLLFUS, R. P., 1950.—“Liste des Nématelminthes connus à l'état fossile.” Year 1950, No. 5, pp. 82-85.

565—Comunicaciones del Instituto Nacional de Investigación de las Ciencias Naturales. Buenos Aires. Ciencias Zoológicas.

- a. SZIDAT, L., ANGELESCU, V. & SICCARDI, E., 1950.—“*Dinurus breviductus* Looss, 1907 (Trematoda, fam. Hemiuridae) agente causal de la ‘enfermedad de las manchas negras’ de *Clupea melanostoma* Eig. 1907, del Rio de la Plata.” 1 (12), 27 pp. [German summary pp. 25-27.]

(565a) Lothar Szidat *et al.* report finding progenetic metacercariae of *Dinurus breviductus* in the body cavity of *Clupea melanostoma* in the course of a biological and ecological study of fish in the Rio de la Plata. This is the first occasion on which progenetic larvae have been described in a hemiurid, the first record of a parasite from *C. melanostoma* and the first record of this parasite from the Rio de la Plata. The parasites caused blackish spots 0.5 cm. in diameter, consisting of the remains of dead larvae, their eggs and excreta, in the body cavity. The first intermediate host of *D. breviductus* is probably a marine mollusc and the first auxiliary host a copepod; *C. melanostoma* is thus thought to be the second auxiliary host. *Sarda sarda*, *Coryphaena hippurus* and other scombriform fish which feed principally on plankton-feeding Clupeidae have previously been described as definitive hosts. Larvae which showed no progenetic development were found in the stomach wall of *Raphiodon vulpinus*.

P.M.B.

566—Concours Médical.

- a. ABEL, E. & COURTIAL, A., 1950.—“Guérison spontanée d'un kyste hydatique cortical du poulmon.” 72 (47), 3631-3633.

567—Cyprus Medical Journal.

- a. MELEAGROS, I., 1950.—[Cysticerciasis.] 3 (3), 305-311. [In Greek : English summary p. 310.]

(567a) A labourer employed by the Cyprus Mines Corporation had multiple, discrete, movable, subcutaneous nodules principally on the back of the chest, and pains in the lumbar region. X-rays revealed opaque nodules in the lumbar region, chest, neck and lower limbs. Two excised nodules proved to be *Cysticercus cellulosae*. Nothing abnormal was found in the blood or faeces.

R.T.L.

568—Danish Review of Game Biology.

- a. MADSEN, H., 1950.—“Studies on species of *Heterakis* (nematodes) in birds.” 1 (3), 1-43.

(568a) Madsen contributes a new study of the important features and synonymy of *Heterakis gallinarum*, *Heterakis isolonche*, *Heterakis dispar* and *Heterakis papillosa*. The spicules are most important differential characters. In *Heterakis gallinarum* there is a short

and a long spicule, in *Heterakis isolonche* the spicules are long and of equal length while in *Heterakis dispar* they are short and equal in length. The name *Heterakis gallinae* Gmelin, 1790 is a synonym of *Heterakis gallinarum* Schrank, 1788 of which *Otis tarda* is a new host. Lists of the known species of *Heterakis* and their avian hosts are provided. R.T.L.

569—Dansk Maanedsskrift for Dyrlaeger.

- a. PETERSEN, A., 1950.—“Om ascariasis.” 61 (9), 208–222. [English summary pp. 220–221.]

570—Deutsche Gesundheitswesen (Das).

- a. WELCKER, E. R., 1950.—“Oxyuriasis des Wurmfortsatzes—Appendicitis ex oxyure—Appendicopathia oxyurica—Lymphadenitis mesenterialis oxyurica.” 5 (11), 323–330. [English, French & Russian summaries pp. 329–330.]

(570a) After having examined many thousands of human appendixes and over 700 cases of changes in the mesenteric glands Welcker differentiates the following four forms of enterobiasis of the appendix: (i) enterobiasis of the appendix as a secondary finding of no importance, (ii) appendicitis caused by enterobius, (iii) appendicopathia oxyurica (a rare condition), (iv) enterobiasis of the appendix with acute changes in the mesenteric glands, to which the name “lymphadenitis or lymphadenopathia mesenterialis oxyurica” is given. The last is the most frequent and most important group and, in Welcker's material, accounted for 15% of all appendectomies and more than 50% of all cases of changes in the mesenteric glands. A.E.F.

571—Deutsche Landwirtschaft.

- a. RAGALLER, F. 1950.—“Über Rüben nematoden und ihre Bekämpfung.” 1 (3), 122–128.

(571a) Ragaller gives a short account of the systematics of the cyst-forming species of *Heterodera* and passes on to their development and morphology. He describes the effect of different crop rotations and manures on beet eelworm populations. Tables are presented showing the effect of different rotations on the yield of beet and the relationship of manuring in presence and absence of eelworm on yield of fresh beet and their dry weight, as well as sugar content and weight of sugar-beet tops. Methods of chemical control are also discussed. D.W.F.

572—Deutsche Medizinische Wochenschrift.

- a. SCHLACK, H., 1950.—“Der nächtliche Durchfall. Zur Kenntnis der Askaridosis.” 75 (6), 218.

(572a) In Schlack's experience subacute diarrhoea in children occurring chiefly at night or in the early morning is a reliable sign of *Ascaris* infection. A.E.F.

573—Deutsche Pelztierzüchter (Der).

- a. SPREHN, 1950.—“Aus der Forschungsstelle für Pelztierzucht Burgbernheim. Zum diesjährigen Wurmbefall der Füchse.” 24 (9), 169–170.

(573a) Sprehn points out that the incidence of hookworm infection in foxes in 1950, judged by post-mortems on animals sent to the Burgbernheim Fur-bearing Animal Research Station, shows a marked increase over that for 1949. This is ascribed to the warm damp summer which favoured the development of the parasite. Since other parasites are also likely to have increased, Sprehn suggests thorough treatment with anthelmintics during the autumn. He recommends “Antentex” [no details given] against hookworms and ascarids and states that the *iso*-amyl ester of mandelic acid in the form of “Vox” capsules and fluid has proved its worth. Treatment should always be associated with hygienic measures such as wire floors to enclosures, and frequent cleansing of running boards and wooden floors. A.E.F.

574—Deutsche Wirtschaftsgeflügelzucht.

- *a. HILBRICH, P., 1950.—“Die Haarwurmkrankheit der Hühner und ihre Bekämpfung.” 3, 26.

575—Deutsche Zoologische Zeitschrift. Hanover.

- a. GOFFART, H., 1950.—“Nematoden aus unterirdischen Gewässern.” 1 (1), 73–78.

(575a) Goffart describes and figures the following free-living nematodes from underground springs in the Erlangen and Aschaffenburg districts of Western Germany: *Onchulus nollii* n.sp., *Monhystra ampliceps* n.sp., *M. stadleri* n.sp., *M. tenuissima* n.sp. and *Hemicyclophora micoletzkyi* n.sp. A.E.F.

576—Día Médico. Buenos Aires.

- a. CASIRAGHI, J. C., 1950.—“Terapéutica biológica de la hidatidosis.” 22 (21), 838–840.
- b. CERESETO, P. L., 1950.—“Tratamiento de la equinococosis; hidatídica hepática.” 22 (28), 1070–1074.
- c. GONZÁLEZ BOSCH, R., 1950.—“Guía terapéutica de las parasitosis intestinales. Anquilostomiasis—necatoriasis.” 22 (52), 2171–2174.
- d. TURCHETTI, A. & SCHIROSA, G., 1950.—“Tratamiento de los quistes hidatídicos por la neumoparacentesis.” 22 (53), 2203–2204.
- e. GONZÁLEZ BOSCH, R., 1950.—“Guía terapéutica de las parasitosis intestinales. Ascariasis.” 22 (55), 2308–2311.
- f. VALENTE, V. L., 1950.—“Síndrome coledociano por *Ascaris lumbricoides*.” 22 (58), 2462–2465.
- g. GONZÁLEZ BOSCH, R., 1950.—“Guía para el tratamiento de las parasitosis intestinales. Coccidiosis intestinal, distomatosis hepática, estrongiloidiasis.” 22 (60), 2537–2538.
- h. GONZÁLEZ BOSCH, R., 1950.—“Guía para el tratamiento de las parasitosis intestinales. Oxiuriasis.” 22 (64), 2715–2717.
- i. GONZÁLEZ BOSCH, R., 1950.—“Guía para el tratamiento de las parasitosis intestinales. Teniasis.” 22 (67), 2809–2812.
- j. GONZÁLEZ BOSCH, R., 1950.—“Guía para el tratamiento de las parasitosis intestinales. Quilomastosis—tricomonalosis—triquinosis.” 22 (68), 2868–2870.
- k. MURGATREYD, F., 1950.—“Nuevo tratamiento de la filariasis.” 22 (68), 2876–2877.
- l. GONZÁLEZ BOSCH, R., 1950.—“Guía para el tratamiento de las parasitosis intestinales. Resumen de las indicaciones terapéuticas.” 22 (69), 2897–2898.

577—Documenta Neerlandica et Indonesica de Morbis Tropicis.

- a. HARTZ, P. H., 1950.—“Filial orchitis.” 2 (2), 170–175.
- b. KEIZER, D. P. R., 1950.—“Secondary effects of phenothiazine.” 2 (2), 178–181.
- c. LIE KIAN JOE & BRAS, G., 1950.—“*Plagiorchis javensis* in Indonesia.” 2 (2), 182–184. [Discussion p. 184.]
- d. LAMPE, P. H. J., 1950.—“Study on filariasis in Surinam.” 2 (3), 193–208.
- e. BERG, J. A. G. TEN, 1950.—“Schistosomiasis; biopsy of liver and rectal mucosa.” 2 (3), 260–265.
- f. LIE KIAN JOE & BRAS, G., 1950.—“*Ancylostoma caninum* in Indonesia.” 2 (3), 288.
- g. HARTZ, P. H., 1950.—“Does onchocerciasis occur in Surinam?” 2 (4), 355–356.
- h. VAN DER KUYP, E., 1950.—“*Mansonella ozzardi* and *Dipetalonema (Acanthocheilonema) perstans* in American Indians in Surinam (Dutch Guiana).” 2 (4), 357–358.

(577a) The microscopical lesions seen in a case of filarial orchitis resembled those present in lymph nodes in cases of tropical eosinophilia and were probably due to hypersensitivity. The most important changes in the testes were infiltrations of eosinophil and plasma cells, lymphangitis and oedema, and extensive damage to the seminiferous tubules. Degenerated microfilariae were found in the lymphatic vessels of the epididymis but none were observed in the testicle. It is suggested that some substance is liberated when the degenerating worms disintegrate and causes an allergic reaction in previously sensitized patients. In view of the great regenerative capability of the testicle it is improbable that its procreative function would be affected.

R.T.L.

(577b) In Keizer's experience as a medical practitioner in Holland, the sale of phenothiazine without prescription for *Enterobius vermicularis* frequently resulted in very severe anaemia. Two case reports illustrate (i) acute haemolytic anaemia and (ii) hepatorenal syndrome as secondary effects of phenothiazine.

R.T.L.

(577c) [This is a translation of part of a paper which appeared in *Med. Maandbl.*, 1950, 3 (5), 165-173. For abstract see *Helm. Abs.*, 19, No. 360a.]

(577d) In Paramaribo 28% of 1,214 Negro and Mulatto residents without elephantiasis were positive for *Microfilaria bancrofti*. Tabulated data show a rapid increase of demonstrable microfilariae from 3% at 0-4 years of age to 27% at 5-9, 35% only in the age groups between 10-29 and an average rate of 30% in the older groups. This decrease in spite of continued exposure is probably due to the release of antigens on the death of adult worms. An attempt to activate this preventive principle by inoculating *Dirofilaria immitis* antigen and by prophylactic treatment with a filaricide have so far given no definite results. The skin test with *D. immitis* antigen is discussed in considerable detail. It is concluded that it cannot serve for the diagnosis of clinical filariasis either because sensitivity is not related to clinical filariasis or is reduced by it. Hetrazan treatment resulted in the immediate disappearance of microfilariae in 40 out of 46 cases. There is a traditional belief that indulgence in spices is a protection from and a remedy for clinical filariasis. Lampe draws attention to the fact that as black pepper contains piperine and piperidine, and hetrazan is a compound of piperazine there are indications that these old traditional remedies are related to the modern filaricide. Although *Microfilaria ozzardi* occurs in Amerindians, especially in the Arowak communities of Matta and Cassipora and in the Caraib community of Berlijn (70-76° N), it is rare in Bush Negroes, the first case being recorded in the present communication.

R.T.L.

(577e) Liver biopsies in two missionaries revealed that in one patient *Schistosoma mansoni* was the true cause of symptoms which had been present for 18 years and that in the other, a healthy individual, there was extensive dissemination and eggs of *S. japonicum* in the liver.

R.T.L.

(577f) [This is a translation of part of a paper which appeared in *Med. Maandbl.*, 1950, 3 (5), 165-173. For abstract see *Helm. Abs.*, 19, No. 360a.]

(577g) Three filarioid worms were removed from a small cutaneous tumour of the breast of a 58-year-old woman who had never lived outside Surinam. A few microfilariae were present in the surrounding granulomatous tissue. Although the worms could not be identified with certainty, it is suggested that they may have been specimens of *Onchocerca*.

R.T.L.

(577h) *Microfilaria ozzardi* and *Mf. perstans* were found in thick blood smears from 15 American Indians at Bigi Pocka on the Saramacca River and at Matta.

R.T.L.

578—Doriana. Genoa. [Supplement to *Annali del Museo Civico di Storia Naturale "G. Doria"*.]

- a. PUJATTI, D., 1950.—"Il *Cysticercus fasciolaris* Rudolphi (1808) in Muridi del Sud-India (Cestoda)." 1 (8), 4 pp.
- b. PUJATTI, D., 1950.—"Centrorhynchus spinosus Kaiser 1893 nel Sud India. Ospiti intermedi (Acanthocephala)." 1 (10), 4 pp.
- c. PUJATTI, D., 1950.—"Centrorhynchus spinosus Kaiser (1893) nel Sud India. Ospiti definitivi (Acanthocephala)." 1 (12), 4 pp.

(578a) During a prolonged stay in No. 1 P.O.W. Hospital at Jalahalli, near Bangalore, Pujatti autopsied in the laboratory there 308 Muridae. He observed *Cysticercus fasciolaris* in 12 out of 34 *Nesocia bandicota* and in 11 out of 126 *Rattus rattus*. No infection was found in 81 *Tatera indica* var. *cuvieri*, 23 *Mus musculus* or in 44 unidentified species.

R.T.L.

(578b) Pujatti lists the names of two amphibians, nine reptiles and three mammals, from the neighbourhood of Bangalore in South India, in which he has found acanthellae of *Centrorhynchus spinosus* encysted in the serous membranes, especially of the peritoneum.

R.T.L.

(578c) Pujatti records *Milvus migrans govinda*, *Corvus coronoides culminatus*, *C. s. splendens* and *Tyto alba javanica* as definitive hosts of *Centrorhynchus spinosus* at Bangalore. The only previous record for India is an immature form described by Chandler as *C. erraticus*. This is considered to be a synonym of *C. spinosus* by C. P. Read whose opinion is quoted from correspondence.

R.T.L.

579—Duodecim.

- *a. LOUNAVAARA, K. I., 1950.—“Fentiazin hengenvaarallinen matolääke.” [Phenothiazine, a dangerous anthelmintic.] 66 (11), 869-873.

580—Écho Médical du Nord.

- *a. COUTELEN, F., 1950.—“Le parasitisme intestinal chez les enfants d'âge scolaire.” 21 (12), 546-568.

581—Edinburgh Medical Journal.

- a. BOWIE, J. H., 1950.—“Filariasis.” 57 (12), 561-571.

(581a) Examination of 3,884 soldiers of the Nepalese National Army shortly after their arrival at Dehra Dun in the United Provinces, showed that 97% were infected with filariasis bancrofti. The various types of lesions are tabulated. The men were all from the Valley of Nepal, an area 15 miles long and 13 miles wide centred on Katmandu; negative results from the examination of 600 Gurkha recruits from eastern and western Nepal suggest that the endemic area may be limited to the Valley. The disease has never previously been reported in Nepal. Of the *Culex fatigans* caught in the Nepalese camp, 2% were infected; others bred in captivity and fed on infected volunteers showed infective larvae after eleven days.

P.M.B.

582—Experimentelle Veterinärmedizin. Leipzig.

- a. EICHLER, W. & MÜLLER, B., 1950.—“Die Phasenkontrastmikroskopie in der parasitologischen Diagnostik.” 2, 103-110.

(582a) Eichler & Müller have examined a number of parasites by means of phase contrast microscopy and compare the results with those obtained by normal microscopical technique. They report on helminths as follows. In the case of *Diphylobothrium latum* segments and adult *Fasciola hepatica*, phase contrast offered no advantage, but certain finer points in the structure of larval stages of *F. hepatica* not revealed by other methods stood out clearly under phase contrast. Young horse strongyle larvae (because of their lighter pigmentation) could be seen much better under phase contrast while in the case of older larvae this method gave very little advantage. As for adult strongyles, it was found that lightly pigmented parts of the parasite showed up better with phase contrast, while light field microscopy was more advantageous in the case of organs not having pronounced curves or with stronger pigmentation. Contrary to expectation, phase contrast gave disappointing results in the examination of faecal specimens.

A.E.F.

583—Extension Folder. University of North Carolina College of Agriculture.

- a. ANON., 1950.—“Control of internal parasites in sheep.” No. 61, 4 pp. [Revised.]

584—Extrême-Orient Médical. Hanoi.

- a. HUARD, F & TRAN ANH, 1950.—“L'intradermo-réaction chez les filariens de Hanoi.” 3 (4), 203-212.

(584a) [This paper appears also in *Méd. trop.*, 1950, 10 (5), 858-864. For abstract see No. 665a below.]

585—Farmers' Bulletin. U.S. Department of Agriculture.

- a. CLAYTON, E. E. & McMURTREY, Jr., J. E., 1950.—"Tobacco diseases and their control." No. 2023, 70 pp.

(585a) *Heterodera marioni*, *Pratylenchus zae* and *P. leioccephalus* annually cause damage to about 500,000 acres of tobacco in Virginia, North and South Carolina, Georgia and Florida. In North Carolina the loss from root-knot alone in an average year (1942) was estimated at \$7,200,000. A combination of 1 lb. of urea and $\frac{1}{2}$ lb. of calcium cyanamide per sq. yd. of seed-bed gives good disease and weed control. Well suited to the light sandy soils of the coastal plain it should be applied between 1st September and 1st November and at least 60 days before seed sowing. If weather and soil remain dry after the application, the soil should be made wet to a depth of five to six inches. This requires 200–300 gal. of water per 100 sq. yd. Chloropicrin at the rate of 14–18 lb. per 100 sq. yd. applied with a continuous flow machine, at a depth of 3–4 inches has given results comparable with those from steam sterilization. Ethylene dibromide and D-D are more effective than urea. Formalin is not effective. Methyl bromide applied at the rate of 9 lb. per 100 sq. yd. to seed-beds covered with gas-proof paper or plastic fabric has, in some tests, given effective control and has increased the cured leaf per acre by 500–600 lb. The beds are treated annually. Peanuts and the small grains are helpful control rotations. Root rot due to *Pratylenchus* sp. is a common and serious disease in eastern North Carolina and in South Carolina. The chemicals used against root-knot have given fairly good control of root rot. Maize, cotton and the common crab grass are reservoir host plants. R.T.L.

586—Farming. Norwich.

- a. PETERS, B. G., 1950.—"Potato root eelworm." 4 (11), 338–341.

(586a) Using some of the basic data given by Oostenbrink in 1950 [for abstract see Helm. Abs. 19, No. 141], Peters discusses the dynamics of a potato root eelworm population in the presence or absence of potato crops. Thus, assuming a 10-fold annual increase of population in the presence and a 50% annual reduction in the absence of potatoes, he shows that ten years of rotation with non-susceptible crops are theoretically needed to obliterate the eelworm population increase due to three years under potatoes. The meaning of zero cyst counts is also discussed. B.G.P.

587—Federal Veterinarian.

- a. ANON., 1950.—"Federal regulations declared safeguard against human trichinosis." 7 (3), 1.

(587a) In the U.S.A. the Federal Meat Inspection regulations recognize two categories of pork products, viz., those which are normally cooked thoroughly before serving and those sold ready to serve without further cooking and which are required to be heated to 137°F. throughout, frozen at certain temperatures for definite periods or treated by a variety of specified curing processes. Recent tests by the U.S. Department of Agriculture are stated to have proved that these controls are effective safeguards against *Trichinella* infection. R.T.L.

588—Försök och Forskning. Stockholm.

- a. BINGEFORS, S., 1950.—"Klövernematoden och dess bekämpande genom resistensförädling." [Abstract of paper presented to the Royal Swedish Academy of Agriculture, September 18, 1950.] 77 (10), 77.

(588a) [A fuller account of this paper appears in *K. LandtbrAkad. Tidskr.*, 1950, 89 (5/6), 420–434. For abstract see No. 652a below.]

589—Folha Medica. Rio de Janeiro.

- a. COSTA, B., 1950.—"Helmintosos." 31 (22), 169-171.

(589a) In eleven States of Brazil, hydatid is common in cattle, sheep and pigs and occurs occasionally in man. In 611 localities *Schistosoma mansoni* was present in 10.09% of 440,786 persons. The local incidence varied, e.g. at Pianí it was 0.04%, in Minas Geraes 4.9%, in Pernambuco 25% and in Sergipe 29.8%. Hookworm was present in 77% of 77,406 persons in ten States. R.T.L.

590—Folia Clinica et Biologica.

- a. PESSÔA, S. B. & COUTINHO, J. O., 1950.—"Considerações sobre os hospedeiros intermediários do *Schistosoma mansoni* no Brasil." 16 (2), 123-141.

(590a) Pessôa & Coutinho summarize, from published literature, the distinguishing characters of the molluscan genera *Australorbis* and *Tropicorbis* and their distribution and infection with *Schistosoma mansoni* in the various States of Brazil. The species recorded in Brazil are *A. glabratus*, *A. olivaceus* and *T. centimetralis*. P.M.B.

591—Fortschritte auf dem Gebiete der Röntgenstrahlen.

- a. TRAUTMANN, H., 1950.—"Eine ungewöhnlich grosse verkalkte Echinokokkencyste in der Leber." 73 (3), 372-373.

592—Fruit-Grower. London.

- a. HITCHINS, P. E. N., 1950.—"Using D.D. against root knot eelworm." Year 1950, 2 (2866), 658.

593—Gartenwelt.

- *a. GOFFART, H., 1950.—"Bekämpfung von Blattälchen mit E 605f." 30 (2), 19-20.

(593a) Goffart applied small bits of paper soaked in a 0.1% solution of E.605 f to calceolaria leaves infested with Aphelenchoides. After two days there was evidence of nematocidal effect within 4 cm. of the point of application but not beyond. If detached leaves were stood in the solution, it was 7 days before eelworms at the leaf tip were killed. Eelworms in direct contact with a 0.01% solution were killed in a few hours. In practice, a 0.02% solution is recommended, but a complete kill is not to be expected from a single treatment. [Based on an abstract in *PflSchBer.*, 7 (9/10), p. 174.] B.G.P.

594—Gastro-Enterologia Bohema. Prague.

- a. MARATKA, Z. & VANEK, J., 1950.—"Chronická otrava z léků proti roupům." 4 (5/6), 264-269. [English, French & Russian summaries pp. 267-269.]

(594a) In a case of tumour of the pituitary and in which the patient had taken as an anthelmintic 100 bottles each of Axuris (gentian violet), Campiol (pyrethrin I and II) and Oxyvors (aluminium acetobenzoate) aplastic anaemia and chronic enterocolitis developed and signs of hypopituitarism appeared. R.T.L.

595—Gastroenterology. Baltimore.

- a. KARLEN, M., 1950.—"Fatal ascariasis." 16 (2), 497-500.
b. JONES, C. A., 1950.—"Clinical studies in human strongyloidiasis. I. Semeiology." 16 (4), 743-756.

(595a) *Ascaris lumbricoides* is still fairly common in the U.S.A. but the incidence is decreasing. Three fatal cases of infection are reported. The recent literature on surgical and autopsy cases of clinical ascariasis is briefly reviewed. R.T.L.

(595b) One hundred cases of *Strongyloides stercoralis* infection in U.S. war veterans were studied by clinical, radiographic and laboratory methods. Of the tentative diagnoses assigned to the patients at the time of admission peptic ulcer was the most frequent (28%). Localized pain in the epigastrium, usually described as a burning sensation, was the most frequent complaint. Larvae were present in 27% of the stools examined and in 91% of the cases in which duodenal fluid was aspirated. Eosinophilia averaging 9% was the most characteristic element in the blood picture. Gentian violet therapy gave very unsatisfactory results.

R.T.L.

596—Gazette Médicale de France.

- a. LAVIER, G., 1950.—“Les distomatoses hépatiques.” 57 (17, Pt. II), 853–855.
- b. COUTELEN, F., 1950.—“Rapport sur le parasitisme intestinal chez les enfants d'âge scolaire.” 57 (17, Pt. II), 857–866.
- c. BECMEUR, LAFFERRE & LAMOTTE, 1950.—“L'ankylostomose dans les mines de phosphate marocain.” 57 (17, Pt. II), 869–874.
- d. BECMEUR, LAFFERRE & LAMOTTE, 1950.—“Les parasitoses intestinales en milieu indigène marocain.” 57 (17, Pt. II), 875–880.
- e. RODRIGUEZ, L. J. D., 1950.—“L'oxyurose à Guayaquil. Revue des connaissances antérieures.” 57 (17, Pt. II), 881–884.
- f. DUMONT, J. H., 1950.—“Un parasite trop oublié : l'Ascaris.” 57 (17, Pt. II), 885–886.

(596a) Lavier gives a brief summary of the trematodes which can infest the liver of man, and describes in detail the symptoms, clinical forms, methods of diagnosis and treatment of fascioliasis hepatica in man.

S.W.

(596b) Coutelen reports on the incidence of intestinal parasites (helminths and protozoa) in children between the ages of one and nineteen years examined at a number of schools and clinics in Lille and neighbouring towns during the years 1936 to 1950. The helminths recorded are *Enterobius*, *Ascaris*, *Trichuris*, *Taenia saginata* and *Hymenolepis nana*. A high proportion of girls with enterobiasis showed infection of the vulva. There is a comprehensive bibliography.

S.W.

(596c) Becmeur *et al.* have carried out an extensive survey of ancylostomiasis in phosphate miners in Morocco. They find that the infestation is very widespread in Khouribga but not in Louis-Gentil. Didakène (tetrachlorethylene) was the only anthelmintic which they found to be effective.

S.W.

(596d) Becmeur *et al.* report on the intestinal parasites found during their investigation into the incidence of ancylostomiasis [see preceding abstract]. The helminth incidence was: *Taenia saginata* very common, hydatid fairly common, *Fasciola* rare, *Schistosoma haematobium* common, *S. mansoni* very rare, *Ascaris* rare, *Enterobius* 70%, *Trichuris* very rare and *Strongyloides* 30%.

S.W.

(596e) Rodriguez reports the occurrence of *Enterobius* in 18 out of 100 children examined by Graham's technique in a hospital in Guayaquil.

S.W.

597—Great Basin Naturalist.

- a. FIELDING, M. J., 1950.—“Three new predacious nematodes.” 10 (1/4), 45–50.

(597a) Fielding gives illustrated technical descriptions of three new predacious nematodes obtained from soil collected in various parts of the U.S.A. as follows: *Bathydontus cylindricus* n.g., n.sp., *Discolaimium pseudoporum* n.sp. and *D. gigas* n.sp. T.G.

598—Grønlandske Selskabs Årsskrift.

- a. ROTH, H., 1950.—“Trikinosen i Grønland.” Year 1950, pp. 57–68.

(598a) Roth gives a review of cases of trichinellosis in Greenland. The disease is known to have occurred in 1947 and several times during the war; it is now shown that

it also occurred before the war. A study of several different animals from Greenland showed that *Trichinella* is very common among dogs and that polar bears are often infected; it is also found among Arctic foxes (*Alopex lagopus*), walruses (*Odobenus rosmarus*) and seals (*Erignathus barbatus* and *Phoca hispida* syn. *foetida*). Most people who have had trichineliasis seem to have been infected by eating walrus meat. S.B.

599—Growers' Digest. Lanark.

- a. HIGLEY, J. C., 1950.—"Root-knot eelworm and its control in the glasshouse." 2 (1), 18-23.

(599a) After a brief résumé of the life-history of *Heterodera marioni*, Higley gives practical details for the application of D-D mixture under glass-house conditions, by hand injector. He recommends injecting 6 inches deep at 400 lb. per acre in light soil or 300 lb. in heavy soil at points 15 inches apart (these rates are equivalent to 25 strokes and 33 strokes respectively per quarter pint of fumigant delivered, the calibration of the gun being checked in this way). Injections should be made as early as possible in autumn, the soil being sealed by rolling or by watering so as to wet the top half inch. The soil should be aerated by cultivation 3 or 4 weeks after injection. Potting soils in closable containers should receive 2 oz. per cubic yard. The cost is about one tenth that of steaming and even the latter is not always fully effective. B.G.P.

600—Harefuah.

- a. KATZENELLENBOGEN, I., 1950.—[Dracontiasis among immigrants from Yemen.] 39 (7/8), 77-80. [In Hebrew: English summary p. 80.]

(600a) Of 49 cases of dracontiasis among immigrants into Israel from the Yemen 4 came from Sharab and 45 from Suda, a large village in the marshes. Seventeen worms were obtained from a boy five years of age, during a stay of seven weeks in hospital. One of the patients reported that he had had more than 300 worms previously. R.T.L.

601—Hemera Zoa. Buitenzorg. [Cont. of Nederlands-Indische Bladen voor Diergeneeskunde.]

- a. BOER, E. DE, 1950.—"Frequentie van voorkomen van enige bekende parasieten bij de karbouw." 57 (5), 310.
b. WAWOROENTOE, F. K. & MANSJOER, M., 1950.—"Echinococcose bij een aap." 57 (7), 447-456.

(601a) De Boer reports on the examination of 227 buffaloes at Tjimahi (Java) internment camp during 1944-45. Helminth parasites were found as follows: *Gastrothylax crumenifer* in 217 (95.59%); *Fasciola hepatica* in 101 (44.49%); *Paramphistomum cervi* in 210 (92.51%); *P. explanatum* in 85 (37.44%); *Onchocerca gibsoni* in 35 (15.42%); *Setaria labiato-papillosa* in 14 (6.17%). A.E.F.

(601b) Waworoentoe & Mansjoer describe a case of hydatid in a male Celebes ape (*Cynopithecus niger*). The animal, one of a number used in experimental work at the Macassar Medical Laboratory, died without having shown any clinical symptoms. Post-mortem examination revealed hydatid cysts in lungs, liver, kidneys and stomach: of a total of 45 cysts, 30 appeared to be sterile. A.E.F.

602—Herpetologica. San Diego, California.

- a. NELSON, D. J., 1950.—"A treatment for helminthiasis in Ophidia." 6 (3), 57-59.

(602a) For the treatment of trematode, ascarid and hookworm infections in snakes Nelson recommends tetrachlorethylene. The dose is 0.2 c.c. per 2 lb. body-weight and should be given four days after feeding. If necessary this may be repeated after three weeks, but a third dose may cause permanent damage to the liver. In three cases 80% of the

helminths were removed by one treatment. Carbon tetrachloride is considered to be too poisonous. A case of *Lechriorchis tygarti* infection in *Natrix s. sipedon* is described. No treatment for trematodes in the lungs has so far proved successful.

P.M.B.

603—Higiiena i Sanitariya. Moscow.

- a. VASILKOVA, Z. G., 1950.—[Infestation of vegetables with helminth eggs by irrigation with purified sewage water.] Year 1950, No. 6, pp. 41-43. [In Russian.]

(603a) According to Vasilkova it is possible to reduce the dissemination of helminths on vegetables grown in fields fertilized by sewage, by filtering the sewage water through sedimentation tanks with a current velocity of 0.003-0.001 metres per second. When this happens 87%-97% of the helminth ova fall to the bottom of the tanks. In her experiments in growing tomatoes and cucumbers on small plots, Vasilkova used filtered and non-filtered sewage water (every 7-10 days or seven times during the vegetative period). She found that in the first case the number of eggs per 100 cucumbers and per 100 tomatoes was 3.4 and 3.3 respectively, and in the second case 23.4 and 19.3. One deformed egg of *Trichuris trichiura* and *Taenia* eggs were found on cucumbers. The ascarid eggs were mostly unchanged and some contained living larvae. From the plot which was not treated with sewage during the vegetative period 230 cucumbers were examined and only nine deformed *Ascaris* eggs were found. [See also Helm. Abs., 15, No. 630k and 18, No. 387a.] C.R.

604—Hippokrates. Stuttgart.

- *a. STAACK, W., 1950.—"Blutegel und Säuger, Symbiose oder Parasitismus?" 21 (19), 578.

605—Hirosaki Medical Journal.

- a. MAKI, T. & HIRAKAWA, Y., 1950.—[Ascariasis of the liver.] 1 (2), 13-17. [In Japanese : English summary p. 2 of abstracts.]
b. AKIMOTO, T., 1950.—[On the motion of the *Asearis lumbricoides* in a small tube (report I).] 1 (3), 53-56. [In Japanese : English summary pp. 12-13 of abstracts.]

(605a) Two cases of *Ascaris lumbricoides* in the liver are reported. At operation, the worms were removed from within the intra-hepatic bile duct. None were found in the extra-hepatic section. There was a small greyish-white area on the overlying liver surface. The clinical signs did not differ from those normally associated with invasion of the bile duct.

R.T.L.

(605b) To throw light on the movements of *Ascaris lumbricoides* in the bile duct, Akimoto has observed them in a small glass tube 8 mm. in diameter. The forward movements are made by wave-like motions; the worm keeps in touch with the glass wall at the peak and bottom of the wave and progresses forward by the extension of the wave. For backward movements, the mouth is bent so as to adhere to the wall. The worm then makes a wave-like movement backwards. When only partially inserted the worm can escape by a combination of these bending movements. Akimoto concludes from these experiments that *A. lumbricoides* in a small tube such as the bile duct can change its direction and when partially inserted can easily escape from the duct without producing clinical symptoms.

R.T.L.

606—Höfchen-Briefe für Wissenschaft und Praxis.

- a. SACHS, H., 1950.—"*Rhabditis brevispina* Claus in kranken Blütenständen von Hyazinthen." 3 (5), 31-37. [English & French summaries p. 37.]

(606a) *Rhabditis brevispina* was present in 23 out of 26 young hyacinth inflorescences the tips of which were rotting. Attempts to cause infection experimentally with the eelworm were unsuccessful, but succeeded with bacteria found in the region below that containing the *Rhabditis*. The symptoms were also produced in healthy plants by injections of the

bacteria. It is concluded that *R. brevispina* is saprophagous but it is advisable to sprinkle healthy and diseased plants with 0.075% of E605 forte to prevent the spread of pathogenic organisms by the nematode larvae.

R.T.L.

607—Hoja Tisiológica. Montevideo.

- a. ARMAND UGÓN, V., 1950.—“Tratamiento del quiste hidático de pulmón.” 10 (4), 369–377.

608—Hospital. Rio de Janeiro.

- a. ARMBRUST, A. DE F., 1950.—“Lesões geniturinárias na esquistossomose mansoni.” 38 (2), 177–210. [English summary p. 207.]
 b. VASCONCELLOS, D. & FERREIRA LIMA, J., 1950.—“Diagnóstico da esquistossomose.” 38 (3), 435–449. [English summary pp. 447–448.]
 c. COUTINHO, J. O. & COUTINHO, M. A., 1950.—“Notas sobre a fixação do complemento com antígeno específico no diagnóstico da esquistossomose mansônica.” 38 (4), 489–496.

(608a) The clinical and pathological lesions induced in the genito-urinary system by *Schistosoma* infections are summarized. Four new cases are described in which (i) bilharzial tubercles occurred in the renal cortex and *S. mansoni* were present in an afferent artery of a glomerulus and in the lumen of arteries in the lung and myocardium; (ii) an enormous number of eggs was present in the tunica albuginea of the testis, the scrotum was enlarged and a hydrocele had been diagnosed; (iii) there was thickening of the mucous folds of the fallopian tube with many tubercles with central abscesses; (iv) eggs were found immediately beneath the epithelial covering of the thickened mucous membrane of the seminal vesicle.

R.T.L.

(608b) In Brazil schistosomiasis mansoni is increasing in incidence and widening in distribution. Of the various diagnostic techniques rectal biopsy, although not infallible, is considered valuable but repeated faecal examinations may reveal infections not disclosed by biopsy. Eosinophilia provoked by tartar emetic is considered to be a good test for estimating the activity of the disease and for calculating the efficacy of the drug during treatment.

R.T.L.

(608c) Complement fixation tests with an alcoholic antigen prepared from the digestive gland of *Australorbis* sp. infected with *Schistosoma mansoni* gave positive results in 96.4% of 722 individuals who were passing *S. mansoni* eggs; 12.6% of the reactions were weak and 87.4% were medium or strong. In 72 uninfected persons the tests were negative, with one exception.

P.M.B.

609—Hospital de Viña del Mar, Chile.

- a. GAJARDO TOBAR, R., APABLAZA, H., URIBE, P., BENAVIDES, I., VARGAS, A., CEPEDA, C., ROJAS, E., ZELDIS, A., LUCCHINI, A. & LA FUENTE, J. DE, 1950.—“Nuevos casos de distomatosis hepática producidos por *Fasciola hepatica*. Estudio epidemiológico, clínico y anatómico patológico.” 6 (4), 71–121. [English summary pp. 119–120.]

(609a) To the 22 cases of fascioliasis hepatica already reported in man in Chile, Gajardo Tobar *et al.* add clinical details of nine new cases from the province of Valparaíso. They claim that definite symptoms are associated with the infection and describe the symptomatology and pathological anatomy characteristic of the period of invasion and of the static period, and the ensuing complications. No definite conclusions could be reached as to the efficacy of emetine hydrochloride. At the Portales slaughter-house, infection reached 42.04% in cattle, 15.58% in sheep and 34.36% in pigs. The figures were noticeably higher in adult than in young animals. The intermediate host is *Limnaea viator*.

P.M.B.

610—Indian Journal of Malariology.

- a. SINGH, J. & RAGHAVAN, N. G. S., 1950.—“Preliminary studies on ‘ex-sheathing’ of *Mf. bancrofti*.” 4 (3), 347-348.

(610a) When hetrazan is added to blood containing microfilariae of *Wuchereria bancrofti* and exposed to air after being kept under reduced atmospheric pressure for 45 minutes, the sheath is shed as in the stomach of *Culex fatigans*. R.T.L.

611—Indian Journal of Surgery.

- a. MEHTA, V. P., 1950.—“Treatment of filarial lymphoedema and elephantiasis.” 12 (2), 89-97. [Discussion pp. 122-124.]
b. KINI M. G., 1950.—“Filarial lymphoedema.” 12 (2), 98-121. [Discussion pp. 122-124.]

(611a) Although the injection of glycerin intra-arterially introduced by Bowesman for the treatment of lymphoedema and elephantiasis has no hygroscopic properties as claimed by him, it exerts some lymphagogue action and opens out partially blocked lymphatics. Mehta has used 50% glycerin in sterilized, distilled water in 163 patients with very gratifying results in scrotal cases and in leg cases of less than five years' duration. In all cases the dull, aching pain and the sensation of heaviness was relieved after the second injection. There was no increase in the oedema after the injections were discontinued. Mehta also describes his technique for excising elephantoid tissue and replacing this by grafts. R.T.L.

(611b) Kini reports the results of operative treatment on 64 cases of scrotal elephantiasis. Eleven photographs are reproduced in the text. R.T.L.

612—Indian Journal of Veterinary Science and Animal Husbandry.

- a. SINHA, B. B., 1950.—“Life-history of *Cotylophoron cotylophorum*, a trematode parasite from the rumen of cattle, goat and sheep.” 20 (1), 1-11.
b. MINETT, F. C., 1950.—“Mortality in sheep and goats in India.” 20 (2), 69-103.

(612a) Sinha describes the developmental stages of *Cotylophoron cotylophorum* from the egg to the metacercaria, and compares his observations with those of other workers. The eggs hatched in 7-16 days, depending on the temperature. *Indoplanorbis exustus* was the only snail which attracted the miracidia and which they would penetrate. Sporocysts were formed in two days, rediae in ten to twelve days, and the first cercariae were shed 30 days after infection of the snails. Encysted cercariae were fed to kids and at autopsy three months later immature paramphistomes were found embedded in the duodenum and small intestine. S.W.

(612b) Minett presents an analysis of the causes of death among sheep and goats on 16 Government farms. Helminthiasis is a principal cause on several of the farms, especially in animals six months to twelve months old. There are 11 tables. S.W.

613—Indian Physician.

- a. RAMAN, T. K., RAMAMURTHI, B. & DAVID, C. V., 1950.—“Cysticercosis.” 9 (8), 207-222.

(613a) Seven cases of *Cysticercus bovis* in man are reported from Visakhapatnam in South India. In four of the cases there were symptoms of cerebral involvement. R.T.L.

614—Japanese Journal of Veterinary Science.

- a. OKOSHI, S., KARASAWA, S., HYUGA, Y. & KUBOTA, H., 1950.—[Studies on schistosomiasis. I. On the infectious conditions of schistosomiasis bovis in Yamanashi Prefecture.] 12 (6), 281-282. [In Japanese.]

- b. OKOSHI, S., SAITO, K., KARASAWA, S. & HANASATO, T., 1950.—[Studies on animal schistosomiasis. II. On the diagnosis by egg culture method and scraping method of the mucous membrane.] 12 (6), 282-283. [In Japanese.]
- c. ISODA, S. & ONO, Y., 1950.—[Experimental studies on clonorchiasis.] 12 (6), 283-284. [In Japanese.]

615—Japanese Medical Journal.

- a. KOMIYA, Y. & ITO, J., 1950.—“Contribution to the morphology of *Paragonimus westermanii*.” 3 (5), 309-314.
- b. HUNTER, III, G. W., RITCHIE, L. S., NAGANO, K., ISHII, N., MURAKUNI, R., PAN, C., WEBER, R. E., SZEWCZAK, J. T. & ASAKURA, S., 1950.—“Parasitological studies in the Far East. II. An epidemiologic survey in Fukui Prefecture, Honshu, Japan.” 3 (6), 359-364.
- c. RITCHIE, L. S., HUNTER, III, G. W., PAN, C., SZEWCZAK, J. T., IZUMI, S., WEBER, R. E., HISHINUMA, Y. & ASAKURA, S., 1950.—“Parasitological studies in the Far East. III. An epidemiologic survey of Aomori Prefecture, Honshu, Japan.” 3 (6), 365-371.

(615a) Komiya & Ito have studied the redia and cercaria of *Paragonimus westermanii*. Observations were made on living material and on material fixed in hot 10% formalin. They found that the arrangement of the excretory system in the rediae was not constant but that the flame cell formula was normally $2[(1+1+1+1)+(1+1+1+1)]=16$. The cercaria is described in more detail, particularly the arrangement of the flame cells, spines and sensory hairs; the various measurements made on fixed material are tabulated and compared with those given by Yamaguti for fresh specimens. The flame cell formula was found to agree with that given by Yamaguti, but to differ from that given by Ameel. s.w.

(615b) [An authors' abstract of this paper appeared in *J. Parasit.*, 1948, 34, Suppl. pp. 34-35. For abstract see *Helm. Abs.*, 17, No. 313cg.]

(615c) [An authors' abstract of this paper appeared in *J. Parasit.*, 1948, 34, Suppl. p. 35. For abstract see *Helm. Abs.*, 17, No. 313ch.]

616—Jornada Médica. Buenos Aires.

- a. CELLERINO, N. A., 1950.—“El procedimiento de Lasnier en el diagnóstico de la hidatidosis.” 4 (34), 93-96.

617—Journal of the American Medical Association.

- a. HERNÁNDEZ MORALES, F., CASAS, C. B. & GARCÍA SANZ, M., 1950.—“Thorn test in patients with eosinophilia related to parasitic infection. Preliminary report.” 144 (5), 379-380.

(617a) The presence of helminth infections does not appear to interfere with the use of the Thorn test for adrenal insufficiency.

R.T.L.

618—Journal of the American Pharmaceutical Association. Scientific Edition.

- a. DUNKER, M. F. W., 1950.—“Anthelmintic activity of fluorine-substituted phenols.” 39 (8), 437-440.

(618a) Using Lamson's technique for the *in vitro* testing of chemicals against pig ascaris [for abstract see *Helm. Abs.*, 5, No. 2d], Dunker has studied the ascaricidal activity of a number of fluorine-substituted alkyl phenols and of a compound which is probably 2-fluoro-4-isoamyl phenol. The activity of 2-*n*-hexyl-4-chlorophenol was used as a standard. In suspensions of 1:1,000 in physiological saline the worms were killed within five minutes, but were visibly damaged by contact with the phenol droplets; in saturated solutions from which excess phenol was removed, the mortality was much lower even after twenty minutes except with 2-*n*-propyl-4-fluorophenol and 2-*i*-butyl-4-fluorophenol: these two compounds showed 100% mortality in ten minutes at 37.5°C. with or without excess phenol. The paralyzing effect appears more rapidly with the fluorophenols than with chlorophenols. s.w.

619—Journal of Animal Science.

- a. RICHARD, R. M., BAHLER, T. L., POPE, A. L., PHILLIPS, P. H., HERRICK, C. A. & BOHSTEDT, G., 1950.—“The effect of artificial hemorrhage versus *Haemonchus contortus* infection on certain blood constituents of lambs.” [Abstract of paper to be presented at the 42nd Annual Meeting of the American Society of Animal Production, Chicago, November 24–25, 1950.] 9 (4), 665.

(619a) Eight parasite-free lambs about 3 months old were each infected with 40,000 *Haemonchus contortus* larvae and paired with lambs of similar age and weight. The non-infected lambs were bled daily to produce an anaemia comparable to that in the infected lambs. Approximately four times the initial blood volume was thus removed from all but one of the non-infected lambs during the 45-day experimental period. A supplementary mineral mixture containing iron, copper, cobalt, manganese, calcium and phosphorus enabled the lambs on both a high and low protein ration to withstand the *Haemonchus* infection better.

R.T.L.

620—Journal of the Ceylon Branch of the British Medical Association.

- a. DASSANAYAKE, W. L. P., 1950.—“Filariasis—a public health problem.” 45 (1), 27–34.
 b. DE SILVA, G., 1950.—“Toxaemia due to round worm infection. (A plea for preventive treatment).” 45 (1), 43–45.
 c. SIVARATNAM, C., 1950.—“Ascariasis, its treatment and some unrecorded clinical manifestations among Ceylon children.” 45 (3), 36–49.

(620a) Quotations from pre-Christian writings demonstrate that elephantiasis has existed for many centuries. Two filarial infections of man are prevalent in Ceylon, *Wuchereria bancrofti* at present restricted to Colombo and its suburbs and other urban areas, and the more rural *W. malayi* at the estuaries of rivers and in the tank areas of the North-western Province and Hambantota district where it is associated with floating *Pistia stratiotes* on which the vector depends. The night blood had become negative in 369 cases out of 395 examined after treatment with hetrazan.

R.T.L.

(620b) De Silva relates his experiences of toxaemia due to *Ascaris* infection in children. These cases are not uncommon in Ceylon. The Registrar General's report shows that in 1946 there were 199 deaths and in 1947 there were 195 deaths due to roundworm infection.

R.T.L.

621—Journal de Chirurgie. Paris.

- a. COSTANTINI, BOURGEON, PANTIN & RIVES, 1950.—“Des indications de l'ablation du sac péri-parasitaire dans le traitement des kystes hydatiques du foie. La kystectomie de routine des kystes suppurés du foie.” 66 (3), 177–189.

622—Journal of the Christian Medical Association of India, Pakistan, Burma and Ceylon.

- a. THOMSON, C., 1950.—“*Ascaris lumbricoides*—the arch simulator.” 25 (6), 325–333.

623—Journal of the Colorado-Wyoming Academy of Science.

- †a. WILKS, N. E., 1950.—“Some observations on the biology of larvae of *Dictyocaulus filaria*, a common lungworm of sheep.” 4 (2), 82.
 †b. LANDRAM, J. F., 1950.—“Notes on the internal parasites of the bobcat, *Lynx rufus*, in Wyoming.” 4 (2), 82.
 †c. OLIVE, J. R., 1950.—“The effect of intravenous injection of oil of chenopodium in the treatment of the dog whipworm, *Trichuris vulpis* (Froelich, 1789).” 4 (2), 83.
 †d. OLSEN, O. W., 1950.—“Parasites of the marten, *Martes caurina origines* (Rhoads, 1902), in Colorado.” 4 (2), 83–84.

(623a) [A fuller account of this paper appears in *Univ. Wyo. Publ.*, 1951, 16, 269. For abstract see *Helm. Abs.*, 20, No. 588c.]

† Abstract of paper presented at the 21st Annual Meeting of the Colorado-Wyoming Academy of Science, 1950.

(623b) *Mesocostoides* sp., *Chlamydonema praeputiale*, *Toxascaris leonina* and *Toxocara cati* are reported from *Lynx rufus* in Wyoming. R.T.L.

(623c) Intravenous injection of an emulsion of oil of chenopodium gave an anthelmintic efficacy of 51% against trichuriasis in dogs but the accompanying oil emboli and infarcts and other pathological effects contra-indicate its use. R.T.L.

(623d) *Crenosoma* sp., *Molineus patens*, *Ascaris columnaris* and *Mesocostoides* sp. are reported from *Martes caurina origins* in Colorado. R.T.L.

624—Journal of the Department of Agriculture. Dublin.

a. ANON., 1950.—“Worm diseases in cattle.” 47, 127–131.

(624a) [This paper appears also as *Leaflet. Dep. Agric. Eire*, 1950, No. 121, 6 pp. For abstract see No. 658a below.]

625—Journal of the Faculty of Agriculture, Kyushu University.

- a. YOSHII, H. & YAMAMOTO, S., 1950.—“A rice nematode disease ‘Senchû Shingare Byô’ III. Infection course of the present disease.” 9 (4), 287–292.
b. YOSHII, H. & YAMAMOTO, S., 1950.—“A rice nematode disease ‘Senchû Shingare Byô’ IV. Prevention of the present disease.” 9 (4), 293–310.

(625a) The authors have done experiments which show that white tip disease of rice is only rarely carried over from one crop to the next in the soil. It can, however, be carried in husks from infested seed scattered on the soil, and in drainage water from infested plants. The disease can pass from infested seed or seedlings to adjacent healthy ones. M.T.F.

(625b) Nicotine sulphate at a dilution of 1:500 sprayed on to the inflorescences of infested rice plants at earing time reduced the number of nematodes on the ears but also reduced the yield of grain. Chemical treatment of infested rice seed with chloropicrin was injurious, and with formalin diluted in water to 1:50 was not nematocidal. The authors have developed an effective warm-water treatment: the seed is pre-soaked for 16–20 hours in water below 20°C., then immersed in water at 50°C. to 52°C. for 5–10 minutes. Germination was not affected but seedling growth at 4 days after treatment was retarded by one day's growth. The treatment may be carried out during the three months before sowing, but not earlier. M.T.F.

626—Journal of the Faculty of Medicine of Baghdad, Iraq.

- a. WATSON, J. M., 1950.—“Studies on bilharziasis in Iraq. Part V. Habitat of the vector snail, *Bulinus truncatus*, and its distribution in relation to the irrigation system.” 14 (5/6), 148–185.
b. JALILI, M. A., 1950.—“Incidence of bilharziasis in Iraq.” [Correspondence.] 14 (5/6), 186.
c. WATSON, J. M., 1950.—“Incidence of bilharziasis in Iraq.” [Correspondence.] 14 (5/6), 186.

(626a) Continuing his studies on schistosomiasis in Iraq, Watson deals with the peculiar nature of the habitats of *Bulinus truncatus* in Iraq. Temporary flood or seepage pools, irrigation channels which are only intermittently filled and marshes which dry up during the summer are unfavourable sites. The snails are confined chiefly to stagnant waters and those which are slow-flowing. None are found in the Tigris, Euphrates or Diyala waters. They are abundant in waters polluted with human excrement, in mud rich in decaying material and are common in wells and in rice fields in the swamp areas of southern Iraq and in borrow pits excavated for brickmaking. The principal limiting factors are temperature, desiccation, rapid water movement and changes in level, salinity, acidity and extreme pollution with animal excrement. R.T.L.

(626c) In reply to an inquiry by M. A. Jalili, Watson explains that the incidence of schistosomiasis in Iraq which he had reported [for abstract see Helm. Abs., 19, No. 200a] was based on a single urine examination, by sedimentation, of schoolchildren under 18 years of age, not on persons attending dispensaries or hospitals, or members of the general population. He points out that multiple urine examinations and the use of acid-ether technique or the miracidiascope would have revealed a higher incidence. R.T.L.

627—Journal Français de Médecine et Chirurgie Thoraciques.

- a. CURTILLET, E., 1950.—“Les kystes hydatiques dits ‘centraux’ du poumon.” 4 (2), 151–156.

628—Journal of the Indian Medical Association.

- a. VENKATESWARAN, C. H., 1950.—“Surgical treatment of filarial scrotum and penis.” 19 (10), 368–370.

629—Journal of Infectious Diseases.

- a. EPPS, W., WEINER, M. & BUEDING, E., 1950.—“Production of steam volatile acids by bacteria-free *Ascaris lumbricoides*.” 87 (2), 149–151.

(629a) Epps *et al.* describe the techniques they used to obtain living bacteriologically sterile *Ascaris lumbricoides*. The bacteria-free worms were put into a sterile buffered solution of a mixture of salts and incubated for 48 hours at 37°C.: they were then removed, cut up, and placed in aerobic and anaerobic culture media; if these remained free of bacteria for 14 days, the salt solution was analysed. It was found that 100 gm. of *Ascaris* produced 1.16–1.82 milli-equivalents of steam volatile acids in 24 hours, of which 38% was valeric acid and/or its isomers, over 10% caproic acid or its isomers, 14–25% acetic acid, and 12% or less propionic and butyric acids. Sterile *Ascaris* lived in ox serum for more than a fortnight but non-sterile worms died within four days. S.W.

630—Journal of the International College of Surgeons.

- a. BITSCHAI, J., 1950.—“Bilharziasis of the urinary tract. Some clinical aspects.” 14 (3), 285–293. [French, German, Italian & Spanish summaries pp. 292–293.]
b. GARCÍA TORNEL, L. & DARGALLO, J., 1950.—“Hidatidosis muscular de la pared torácica.” 14 (6), 746–754.

(630a) In schistosomiasis the different parts of the urinary system must always be considered inseparable, functionally as well as anatomically. The main conditions that can be recognized by X-ray are calcification, dilatation, strictures, kinks, papillomata and calculi. Several of these conditions are illustrated by photographs. R.T.L.

631—Journal of the Japanese Veterinary Medical Association.

- a. KUME, S., 1950.—[Experimental treatment of filariasis with chemicals other than antimonial compounds.] 3 (3), 73–77. [In Japanese.]
b. KUME, S., 1950.—[Technique of examination for microfilariae.] 3 (9), 291–292. [In Japanese.]
c. ANON., 1950.—[Statistic survey on caprine and ovine lumbar paralysis in Japan.] 3 (11), 371–372. [In Japanese.]

632—Journal of Mammalogy.

- a. KELLY, A. L. & PENNER, L. R., 1950.—“*Spirocerca* from the snow leopard.” 31 (4), 462.

(632a) *Spirocerca lupi* is reported for the first time from *Panthera uncia*. Although the snow leopard died in San Diego it had recently come from the Himalayas via Calcutta. R.T.L.

633—Journal de Médecine de Bordeaux et du Sud-Ouest.

- a. SIGALAS, R. & PAUTRIZEL, R., 1950.—“Les manifestations allergiques au cours des diverses parasitoses et en particulier des parasitoses tropicales.” 127 (10), 668–676.

634—Journal of the Medical Society of New Jersey.

- a. GOLDBERG, H. H. & BIBER, D., 1950.—"Trichinosis with myocardial and pulmonary involvement. A case report." 47 (4), 152-153.

635—Journal of the National Medical Association. New York.

- a. BRISCOE, M. S., 1950.—"Notes on Bancroftian filariasis in the central province of Liberia." 42 (6), 384-385.

(635a) In Liberia *Anopheles gambiae* is stated to be the ideal vector of *Wuchereria bancrofti* but of 835 females dissected in the Roberts Field area only 7 were infected. In the same area the blood of 1,136 natives showed 8.2% with nocturnal filarial periodicity. R.T.L.

636—Journal of the Pharmaceutical Society of Japan. (Foreign Language Edition.)

- a. MIYAKI, K., IKEDA, N., ISHII, N. & MITOMA, Y., 1950.—"Fundamental studies on molluscicides against *Oncomelania nosophora*, the intermediate host of *Schistosoma japonicum*." 70 (7/8), 446-449.

(636a) As lime-nitrogen [calcium cyanamide] did not prove sufficiently effective as a control measure against *Oncomelania nosophora*, laboratory tests were made with 23 derivatives of phenols and thiophenols, 8 phenylethyl carbonate derivatives, 11 aniline derivatives, 9 phenylurethane derivatives, 16 cyanamide derivatives, and five other compounds of which only gammexane was effective. There is apparently no special formula for molluscicides but there is some specificity of substituted atoms and their position in each derivative group. Of the 72 chemicals tested, trichlorophenol, pentachlorophenol and its copper salt, chloroxenol, *p*-thiocresol, *p*-nitraniline, thioresorcinol, *p*-nitrophenylethyl carbonate and 3-nitro-2-amino-toluene gave remarkable results and seem to be applicable practically.

R.T.L.

637—Journal of the Philippine Medical Association.

- a. PESIGAN, T. P. & MASILUNGAN, V. A., 1950.—"Studies on schistosomiasis: experiments on the chemical control of *Oncomelania quadrasi* snails." 26 (1), 17-30.
 b. GARCIA, E. Y., 1950.—"Toxoplasmosis and sparganosis in native Filipinos. (Clinical reports)." 26 (5), 225-230.
 c. GARDUÑO, D. M. & CARPIO, D., 1950.—"Paragonimiasis: a report of three cases with pulmonary and neurological symptoms." 26 (6), 253-260.
 d. PESIGAN, T. P., 1950.—"Studies on schistosomiasis: progress report on the Philippine campaign as of June 30, 1950." 26 (8), 339-348.
 e. BURTNER, O. W., 1950.—"Schistosomiasis japonica in American soldiers in the Philippines. A clinical and laboratory study of 297 treated cases." 26 (12), 537-554.
 f. STRANSKY, E. & DAUIS-LAWAS, D. F., 1950.—"Hookworm anemia in Filipino children." 26 (12), 561-563.

(637a) Pesigan & Masilungan report on the molluscicidal properties of dinitro-*o*-cyclohexylphenol and dicyclohexylamine salts of dinitro-*o*-cyclohexylphenol in the control of *Oncomelania quadrasi* in the Philippines. Laboratory experiments, in which snails kept for several weeks in their aquaria as well as newly collected wild snails were exposed to various concentrations of these chemicals, are described in great detail. Field trials, in which the action of the chemicals was studied on snails present in water and on damp earth, are recorded and commented on. The chemicals proved toxic for snails and fish but were harmless to plants and plant crops when applied at the rate of 10 p.p.m. to water. All vegetation had to be removed from the water and the flow arrested to obtain maximum efficiency. On moist soil cleared of vegetation an application of the chemicals in powder form, at the rate of 10 gm. per square metre proved effective with dinitro compounds and with 18-22 gm. of the amine salts. They recommend further field trials with these chemicals.

P.L.Jer.

(637b) A pseudophyllidean larva tentatively considered to be *Sparganum mansonii* was removed from a hard mass, 7 cm. by 5 cm., excised from the chest of a Filipino fisherman from Libon, Albay, in the Philippines. R.T.L.

(637c) The finding of eggs of *Paragonimus westermanii* in the sputum of three Filipino soldiers from Leyte and Mindoro, confirmed as paragonimiasis a disease which would probably otherwise have been diagnosed as tuberculosis. All three patients had eaten raw, salted or semi-cooked crabs and other crustaceans, and had shown symptoms of haemoptysis, chest pain and coughing for three, four and six years respectively. There was little or no fever and the physical condition remained quite good, although in one case there was a sudden onset of paresis and complete insensitivity in an arm and in the lower part of one leg. Injections of 0.5 grain of emetine hydrochloride once daily for seven days, followed by 5 drops of saturated potassium iodide three times daily for a month arrested the disease but did not relieve the neurological symptoms. P.M.B.

(637d) Schistosomiasis is shown to be a serious health problem in the Philippines by a faecal survey carried out in towns in the following provinces: (i) Zamboanaga, Occ. Misamis and Lanao (Mindanao), (ii) Surigao and Agusan (Mindanao), (iii) Leyte, (iv) Mindoro, (v) Sorsogon (Luzon) and (vi) Samar. Of 35,509 examinations in the endemic areas, 4,302 (12.11%) were positive; of the 2,407 persons who sought free foudadin treatment only 1,135 completed the full course of nine injections, and of these 847 were negative for schistosome eggs immediately after treatment. Nilodin [=miracil D] given by the mouth to 153 cases (a total dose of 60 mg. [per kg.?] body-weight in three days) gave inconclusive results. The incidence in the towns surveyed is listed, the highest being 50.7% at MacArthur, Leyte. From preliminary trials, dinitro-*o*-cyclohexylphenol and the dicyclohexylamine salt of dinitro-*o*-cyclohexylphenol are recommended for use on a larger scale against *Oncomelania quadrasi*. Even where schistosomiasis is not endemic, intestinal parasitism is extremely heavy, with an average of over 98% in 39,127 cases; 87.39% were positive for *Ascaris*, 58.95% for *Trichuris* and 45.66% for hookworm. A map and various tables are given. P.M.B.

(637e) Burtner reporting at considerable length on his study of 297 American soldiers who had been treated for *Schistosoma japonicum* infection in Leyte between March and August 1945, deals with the various aspects of the disease under the headings: exposure, incubation period, symptoms, severity, signs, proctoscopy, chest X-ray, blood count, stool examination, treatment, results of treatment, data on stool examinations, the cephalin flocculation test, the post-treatment course and importance in exposed military personnel. P.L.Ler.

(637f) Observations on 15 cases of hookworm seen in the Department of Pediatrics of the Philippine General Hospital lead Stransky & DAVIS-LAWAS to conclude that the aetiology of hookworm anaemia is due to loss of blood sucked by the worms and increased demand for iron and proteins to maintain a normal haemoglobin and serum protein level. If the demand is satisfied no anaemia will develop, if not the anaemia may be very severe. Additional factors are multiple vitamin deficiency and secondary infections. R.T.L.

638—Journal de Radiologie et d'Électrologie.

- a. JALET, J., 1950.—"A propos d'un cas d'échinococcose du bassin." 31 (7/8), 499–500.
- b. WEIGEL, 1950.—"Image 'en tourbillon' du grêle (ascaridiose)." 31 (9/10), 612–613.

639—Journal of the Royal Army Medical Corps.

- a. ARCHER, G. T. L., BANGHAM, A. D., DUNBAR, J. M. & RITCHIE, A., 1950.—"Two urinary carriers of enteric group organisms presenting some interesting features." 94 (6), 302–306.

(639a) The histories of two individuals with vesical schistosomiasis show that there was prolonged urinary carriage in enormous numbers of enteric group organisms which showed obvious antigenic roughness and low virulence for mice. R.T.L.

640—Journal of the Tennessee State Medical Association.

- a. HOLLIDAY, Jr., P. B., 1950.—"Hookworm anemia in a young child." 43 (12), 451-453.

641—Journal of Thoracic Surgery.

- a. SUSMAN, M. P., 1950.—"The treatment of pulmonary hydatid disease." 19 (3), 422-432.

642—Journal of the Washington Academy of Sciences.

- a. DRECHSLER, C., 1950.—"A *Harposporium* infecting eelworms by means of externally adhering awl-shaped conidia." 40 (12), 405-409.

(642a) Drechsler describes a new species of hyphomycete, *Harposporium subuliforme* n.sp. found parasitic on a species of *Rhabditis* occurring in decaying tissue of various grasses near Beltsville, Md., U.S.A.

J.B.G.

643—Journal of the Zoological Society of India.

- a. LOOS, C. A., 1950.—"*Xiphinemella* nom.nov. A change of name for *Taprobanus* Loos 1949 (Nematoda: Dorylaimidae)." 2 (4), 149.

(643a) *Taprobanus* Loos, 1949, preoccupied by *Taprobanus* Distant, 1911, is changed by Loos to *Xiphinemella* nom.nov.

R.T.L.

644—Karakulevodstvo i Zverovodstvo.

- a. ORLOV, I. V., 1950.—[Organization of a system of control measures for worm diseases in sheep.] 3 (3), 60-61. [In Russian.]
 b. PETROV, A. M. & DUBNITSKI, A. A., 1950.—"Helminthic disease of sables—metacercarial alariasis." 3 (4), 70-71. [In Russian.]
 c. DUBNITSKI, A. A., 1950.—[*Crenosoma* infection of sables.] 3 (5), 73-74. [In Russian.]

(644a) According to Orlov the main difficulty in completing the eradication of helminthiasis in sheep is the defensive system usually employed in control which only reduces the number of worms present but leaves the residue for reinfestations. In his opinion the tactics should be changed to offensive ones. In the case of *Coenurus cerebralis* of sheep he recommends not only treatment against the adult tapeworms in dogs and the destruction of sheep heads infected with larvae, but also the destruction of small rodents in the muscles of which *C. cerebralis* is also found. All lambs are treated with copper sulphate for *Moniezia* 25-30 days after they are put on pasture and this is repeated two weeks later, but is still not 100% successful. As oribatid mites are less common in new grass, he recommends the grazing of ewes with lambs on pasture not more than a year old. For *Dictyocaulus* he recommends hygienic measures particularly the improvement of watering arrangements for the stock. In addition to veterinary measures for the control of helminthiasis there should be collaboration by agricultural workers who should ensure that the conditions for the development of larval stages of helminths are unfavourable.

C.R.

(644b) The authors report finding metacercariae of *Alaria alata* in sables and pine martens in the fat tissue of the abdominal and thoracic cavities, under the endocardium, under the capsule of the kidneys and in the mesentery. They fed these metacercariae to dogs and foxes which were found post mortem to be infected with *A. alata*, maturity having been reached in 29-36 days. Sables, pine martens and *Mustela lutreola* become naturally infected with metacercariae through eating frogs and tadpoles; these were heavily infected with metacercariae in the area under observation. As a prophylactic measure the destruction of frogs and tadpoles is recommended in the area of fur ranches and the keeping of fur animals in cages with wire floors raised from the ground.

C.R.

(644c) Three out of ten sables were found on post-mortem examination to be infected with *Crenosoma taiga*. Faecal examination of 87 animals revealed this parasite in 21.8%. The longevity of *C. taiga* is 8-10 months. *Arion intermedius*, *Succinea putris* and *Trichia*

hispida were placed in petri dishes for 24 hours with larvae of *Crenosoma*. After one to two days, Dubnitski observed the penetration of the larvae into the tissue of the molluscs. Nine days later the size of the larvae had increased. The second moult took place 15-18 days after infection. The larvae had then stopped growing and had become infective. One sable was fed with *T. hispida* containing infective larvae and 35 days later larvae of *C. taiga* were found in the faeces. Another sable was fed with infected *A. intermedius* and *S. putris*. When killed it was found to be infected with *C. taiga*. To prevent the infection, Dubnitski recommends the keeping of sables in cages with wire floors raised from the ground.

C.R.

645—Kieler Meeresforschungen.

- a. GERLACH, S. A., 1950.—“Die Diplopeltiden, eine Gruppe freilebender Nematoden.” 7 (2), 138-156.

(645a) Gerlach has made a study of marine nematodes belonging to the genus *Diplopeltis* Cobb, 1905 and nearly related genera and species occurring in the vicinity of Kiel. He discusses their taxonomy and gives illustrated technical descriptions of the following which are new to science: *Campylaimus mirus* n.sp., *Diplopeltis ornatus* n.sp., *Diplopeltula breviceps* n.g., n.sp., *Diplopeltula longiceps* n.sp. Certain other systematic changes of relatively minor importance are proposed.

T.G.

646—Kinderärztliche Praxis.

- a. NEUMANN, E. & WIEDEMANN, H. R., 1950.—“Zur Frage des Oxyurenbefalls bei Säuglingen.” 18 (11/12), 556-561.

(646a) In spite of the rapid spread of enterobiasis in Germany since the war, there were only five positive results in 1,000 examinations of 300 babies under a year old at a clinic in Bonn. These represented very light infections. Possible factors contributing to this immunity are discussed.

P.M.B.

647—Klinicheskaya Meditsina. Moscow.

- a. RUTKOVSKI, L. A., 1950.—[Clinical manifestations in early stages of ascariasis.] 28 (8), 49-53. [In Russian.]
b. LEVINA, D. A., 1950.—[Fascioliasis of the liver.] 28 (8), 57-61. [In Russian.]

(647a) Commonly associated with *Ascaris* infection in man are bronchial asthma, atypical pneumonia and various forms of hepatitis. In patients with *Ascaris* there is a higher incidence of bronchitis, lobar and broncho-pneumonia, exudative pleurisy and suspected tuberculosis which are attributable to larval migration through the lungs. There is also an eosinophilia.

R.T.L.

(647b) *Fasciola hepatica* infection in man is characterized by pain in the liver region, a high eosinophilia and the presence of eggs in the faeces and duodenal contents. 1.5 c.c. of a 2% solution of emetine hydrochloride given twice daily for 8 days is recommended.

R.T.L.

648—Klinische Wochenschrift.

- a. GRAEVE, K. & HERRNRING, G., 1950.—“Toxische Wirkungen des Gamma-Hexachlorcyclohexan bei seiner Anwendung als Anthelminthicum am Menschen.” 28 (35/36), 622-623.

(648a) Graeve & Herrnring report that six out of a series of 15 patients treated for enterobiasis by the administration of 45 mg. pure gammexane developed more or less serious symptoms of disturbances of the central nervous system. This is considered to be due in part to the use of a mechanical emulsifier which gave a finer distribution of the drug thereby increasing resorption. The use of pure gammexane, instead of the mixture of isomers previously administered was also a contributing cause. The authors question

whether the use of such a toxic substance in the treatment of a comparatively mild disease is justified.

A.E.F.

649—Kongelige Norske Videnskabers Selskabs Skrifter.

- a. ALLGÉN, C. A., 1950.—“Freilebende marine Nematoden von der Insel Storfosen. Ein weiterer Beitrag zur Kenntnis der Strandnematoden-Fauna Norwegens.” Year 1947, No. 3, 32 pp.

(649a) Allgén reports on the marine nematodes which he found in samples of mud and detritus collected on the shore of the island of Storfosen, Trondheimsfjord, Norway. Two species, viz., *Bathylaimus latilaimus* n.sp. and *Theristus donsi* n.sp., are new to science.

T.G.

650—Kühn-Archiv.

- a. GRAUPNER, H., 1950.—“Die Wirkung des Reconox auf die Strongyliden beim Pferde.” 63, 40–70.

(650a) Graupner reports that for the treatment of strongyles in horses, Reconox (a phenothiazine preparation which was used by Löwenstein with success for enterobiasis in man) was effective and well tolerated. A single dose of 30–35 gm. resulted in a reduction of 97% in the egg count. After a single dose of 50 gm. the faeces remained almost negative for the six weeks of observation. In another series of tests 20 gm. on each of three successive days (total 60 gm.) was shown by faecal culture to be even more effective, and almost equally so against both the large strongyles and *Trichonema* spp. The drug is cheap and easy to administer.

P.M.B.

651—Kungl. Fysiografiska Sällskapets i Lund Föreläsningar.

- a. ALLGÉN, C. A., 1950.—“Über einige schwedische saprobisch lebende Nematoden.” 20 (2), 24–29.

(651a) Allgén reports on the free-living nematodes he found in a sample of slime collected from the drain of a bathroom in Gothenburg, Sweden. The species encountered were *Prismatolaimus dolichurus* de Man, *Diplogaster filicaudatus* Bütschli and *Rhabditis stalbergi* n.sp.

T.G.

652—Kungl. Lantbruksakademiens Tidskrift.

- a. BINGEFORS, S., 1950.—“Klöver-nematoden och dess bekämpande genom resistensföreläggning.” 89 (5/6), 420–434. [English summary p. 433.]

(652a) Clover eelworm is very common in Sweden. In South Sweden strains with rather good resistance have been bred but their winter hardiness is not sufficient for Middle and North Sweden. The first practical result of resistance breeding obtained at Ultuna Branch Station is a resistant and winterhardy tetraploid red clover strain that in trials has proved very promising. It has been shown that a selection can be made after an infection on seedlings. The main difference between a susceptible and a resistant strain is that in the former the eelworm reproduction is very rapid while in the latter it is greatly retarded. S.B.

653—Kyushu Memoirs of Medical Sciences.

- a. MIYAZAKI, I., 1950.—“*Raillietina madagascariensis* found in Kyushu, Japan.” 1 (1), 1–6.

(653a) Miyazaki reports finding *Raillietina madagascariensis* during 1944 in 7.6% of 185 *Rattus norvegicus norvegicus*, 14.3% of 84 *R. n. hibernicus* and 3.2% of 31 *R. rattus alexandrinus* in Fagoshima City, Kyushu, Japan. This is the first record of this species in Japan. In these Japanese specimens the number of rostellar hooks varied from 81 to 143 and Miyazaki observed minute spines on the rostellar sac which have not previously been reported. The number of specimens in each rat varied from 1 to 67 with an average of 12.3.

P.M.B.

654—Laboratorio. Granada.

- a. GONZÁLEZ CASTRO, J., 1950.—“Supervivencia y cultivo de los helmintos en medios artificiales ; su interés en parasitología.” 10 (55), 7-38.

(654a) González Castro summarizes the literature on the culture and maintenance of helminth eggs, larvae and adults in artificial media and the possible relationships of helminths and various micro-organisms. Descriptions of some of the more useful laboratory techniques are given.

P.M.B.

655—Latvijas PSR Zinatnu Akademijas Vestis.

- a. EGLITIS, V. & KAKTINA, Dz., 1950.—“Petījumi par kartupeli nematodi (*Heterodera rostochiensis* Wollenw.).” 4 (33), 95-102. [In Latvian : Russian summary p. 102.]

(655a) *Heterodera rostochiensis* was found in Latvia for the first time in 1949. Although not previously seen it is highly probable that it has a wide distribution. Half a litre of soil contained 600 cysts; in some fields it was found that the number of cysts was higher than 100,000 per sq. metre. 93% of the cysts were found in the upper 20 cm. of soil but some were also found down to a depth of 40 cm. According to the authors the relation between the number of cysts in half a litre of soil and the yield of potatoes is as follows: (i) less than 200 cysts the yield suffers little, (ii) 200-500 cysts the yield might be very low (20-50 quintals per hectare) or quite high (up to 300 quintals per hectare), and (iii) more than 500 cysts the yield is always low (does not exceed 100 quintals per hectare). In such soil both the number of potatoes and their size were markedly reduced. The host plants of *H. rostochiensis* other than potatoes were tomatoes and *Solanum nigrum*.

C.R.

656—Lavoura Arrozeira. Porto Alegre.

- a. VAITSMAN, J., 1950.—“As limitações da fenotiazina no combate às verminoses animais.” 4 (47), 26.

657—[Leaflet.] Connecticut (Storrs) Agricultural Experiment Station.

- a. JOHANSON, F. D., 1950.—“A preliminary report on the incidence of two types of plant parasitic nematodes on peaches in Connecticut.” No. Inf-10, 2 pp.

(657a) Johanson reports that *Pratylenchus* sp. and *Criconemoides* sp. have been found associated with the roots of peach trees in Connecticut. Their presence caused reddening of twigs, less new growth, more numerous flower buds, enlarged lenticels and earlier leaf fall. All these symptoms are usually associated with restricted root activity.

J.B.G.

658—Leaflet. Department of Agriculture, Ireland.

- a. ANON., 1950.—“Worm diseases in cattle.” No. 121, 6 pp.

(658a) This leaflet deals briefly with the life-history, symptoms, prevention and treatment of helminths in cattle, and more particularly with: (i) scours and wasting in young cattle; it is strongly recommended that all young cattle between the ages of 3 and 18 months be dosed with phenothiazine monthly from June to October and that all cattle above 18 months old be dosed late in August and again a month later; (ii) husk or hoose in calves; housing and good feeding with milk, crushed oats or meal, hay and roots are advised and the animals should also be treated for intestinal parasites; (iii) fluke or liver rot; all cattle and sheep should be treated with hexachlorethane, the former in November and the latter in October; treatment should be repeated two months later. The application of copper sulphate to wet land should be done in June and repeated one month later, and all animals and poultry should be kept off the treated pasture for about three weeks.

R.T.L.

659—Liječnički Vjesnik.

- a. SVEŠKO, V., 1950.—“Ascariasis tubae Fallopii.” 72 (4/5), 174-175. [English summary p. 208.]

660—Lingnan Science Journal.

- a. HSU, P. K., 1950.—“Some heterophyid metacercariae belonging to the genera *Haplorchis* and *Procerovum* (Trematoda: Heterophyidae).” 23 (1/2), 1-20. [Chinese summary p. 19.]
- b. CHEN, H. T. & HSU, P. K., 1950.—“A preliminary note on schistosomiasis from Szechui district, Kwangtung.” 23 (1/2), 143-144. [Chinese summary p. 144.]

(660a) In China the fresh-water fish, *Oryzia latipes*, contains small encysted trematodes resembling those of *Clonorchis sinensis*. Hsu has distinguished five kinds of heterophyid metacercariae in *O. latipes* and *Macropodus opercularis* and has determined their specific status from adults reared experimentally in ducklings, chickens and kittens. The cysts from *O. latipes* gave rise to *Haplorchis taichui*, *Procerovum sisoni* and *P. calderoni* while those from *M. opercularis* produced *H. taichui*, *H. pumilio* and *P. cheni*. That *Monorchotrema microrchia* is a synonym of *H. taichui* is confirmed. As the metacercariae of *Haplorchis* and *Procerovum* already possess almost all the adult organs, 48 hours in the definitive host is sufficient for them to reach maturity. Attention is drawn to the importance of this group of trematodes as parasites of man in the Philippines. R.T.L.

(660b) The existence of autochthonous schistosomiasis in man in Kwangtung Province has now been established by the finding of cases of hepato-splenomegaly and dysentery with characteristic *Schistosoma japonicum* eggs, and of forked-tailed cercariae in local *Oncomelania nosophora* by which infections were produced experimentally in rabbits, mice and cats. R.T.L.

661—Lyon Médical.

- a. MONNET, P., COUDERT, J., CORNUT, P. & BRETTE, R., 1950.—“Distomatose à symptomatologie anormale ou compliquée de greffe infectieuse sur une cardiopathie ancienne? Valeur de l'intradermo-réaction à l'antigène de douve. Echec du glucantine. Guérison de l'état septicémique par la chloromycétine.” 183 (52), 427-431.

662—Maandblad voor de Landbouwvoorlichtingsdienst.

- a. FLIK, H. M. & SAALTINK, G. J., 1950.—“De belangrijkste ziekten plagen en beschadigingen bij landbouwgewassen in 1949.” 7 (6), 241-250.

(662a) Among the records of pests on agricultural crops in Holland in 1949, Flik & Saaltink refer to *Heterodera avenae* [= major] on oats in Groningen, North Brabant and Limburg, the pea root eelworm in Zeeland, and *Heterodera rostochiensis* in many places where potatoes are intensively grown. B.G.P.

663—Maroc Médical.

- a. CHENEBAULT, J., 1950.—“Note sur la fréquence du kyste hydatique du poumon au Maroc.” 29 (303), 693-696.

(663a) In Morocco, 41 instances of hydatid cyst in the lung were observed among 87,500 persons examined over a period of eight years. R.T.L.

664—Marseille Médical.

- a. SAUTET, J., 1950.—“L'anémie à ankylostomes est-elle une maladie parasitaire?” 87 (10), 485-487.

665—Médecine Tropicale. Marseilles.

- a. HUARD, P. & TRAN ANH, 1950.—“L'intradermo-réaction chez les filariens de Hanoi.” 10 (5), 858-864.

(665a) Intradermal injections of *Dirofilaria immitis* antigen gave strongly positive reactions in 20 out of 23 cases of haemo-lymphochyluria. Only 13 of the cases had shown microfilariae in the blood. Ten out of 15 cases of hydrocele gave positive reactions; in

eight of them there were microfilariae in the blood. One case of lymph scrotum with microfilariae in the blood was also positive. Of three cases of elephantiasis without microfilariae, the reaction was negative in two and doubtful in the third. In the authors' opinion the aetiology of this affection is still obscure and filarial infection is not always the sole cause. Huard & Tran Anh conclude that the intradermal reaction is very reliable owing to its sensitivity and specificity. It is easy to carry out in an endemic population. R.T.L.

666—Mededelingen van de Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent.

- a. MILES, H. W., 1950.—"Eelworm diseases of horticultural crops." 15 (1), 5-25. [French & German summaries pp. 22-23.]
- b. PIQUER, G., 1950.—"Essais de lutte au moyen du séléniate de sodium et du E.605 contre *Aphelenchoides olesistus*, le nématode des fougères." 15 (1), 58-68. [English & German summaries p. 67.]

(666a) Following on a brief history of the discovery of eelworms, Miles describes the characteristic symptoms of eelworm attack by the bulb and stem eelworm (*Anguillulina dipsaci*), the leaf eelworms (*Aphelenchoides* spp.) and the root eelworms (*Heterodera* spp.). The life-cycle and behaviour of each is described. After a short account of the factors influencing the spread of these parasites, methods for their control are discussed. The article concludes with a note on recent research work on these parasites. D.W.F.

(666b) Piquer reviews the means of control of plant-parasitic *Aphelenchoides* which have been proposed and suggests that the best method would be by internal therapy of the plant. He tested sodium selenate and E.605 (= parathion) against *A. olesistus* (= *A. fragariae*) in *Asplenium nidus*. He used sodium selenate in 0.66% solution at rates of from 7.5 c.c. to 90 c.c. per 500 c.c. pot, both in a single application and in two doses at an interval of ten days, without causing any apparent reduction in the numbers of eelworms or damage to the plants. In the first tests of E.605, doses of 1, 2 and 4 gm. of active material per pot proved fatal to the ferns without showing any effects on the nematodes 15 days after treatment. In other tests the plants were watered with suspensions of 0.1 gm. active material on 1, 5, 10, 20 and 25 occasions, the applications being every two or three days and no other water being given. Three populations were tested, and samples were taken both after the doses and ten days later. There was no phytotoxic effect and no observed nematocidal effect. M.T.F.

667—Medical Press of Egypt.

- *a. NICOLAIDIS, E. N., 1950.—"Variations de la prothrombine et du fibrinogène dans les hépatites parasitaires des Egyptiens." 41 (2), 103-109.

668—Medicamenta. Madrid.

- a. JIMÉNEZ LINARES, J., 1950.—"Aportación a la clinica de las parasitosis intestinales." 8 (186), 104-105.

669—Medicina. Madrid.

- a. FUENTE CHAOS, A. DE LA & SALAMANCA, Jr., F. E. DE, 1950.—"Equinococosis tiroidea." 18 (I(4)), 225-231.
- b. MENDEZ GIL, A. M., 1950.—"Signo de Morquio en quiste hidatídico de pulmón." 18 (II(5)), 388-393.

670—Medicina. Revista Mexicana.

- a. NETTEL F., R., 1950.—"Exploración de los focos de oncocercosis de Chiapas." 30 (613), 405-431. [English summary p. 431.]

(670a) In the Mexican state of Chiapas, *Simulium metallicum*, *S. ochraceum* and *S. callidum* were found to be the greatest proportion of those simuliids captured where

onchocerciasis is most prevalent. *S. haematopotum* was the commonest species where onchocerciasis was less frequent. R.T.L.

671—Medicina Clínica. Barcelona.

- a. CALVO MELENDRO, J., 1950.—"Quistes hidatídicos de hígado abiertos en vías biliares." 14 (6), 411-420.
- b. BORRÁS, J. A. & DESFILIS, A., 1950.—"Quiste hidatídico cardiopericardíaco diagnosticado y operado." 15 (3), 189-191.

672—Medicina Española.

- a. DIAZ DIAZ, R. & BENLLOCH NAVARRO, R., 1950.—"Sobre tres casos de quiste hidatídico de riñón." 24 (136), 39-49.
- b. ROMERO CALATAYUD, A., 1950.—"Pseudocólicos hepáticos por hidatidosis." 24 (138), 198-200.

673—Medicine and Biology. Tokyo.

- *a. MIYAZAKI, I. & MANNOZI, N., 1950.—"On the second intermediate host of *Paragonimus ohirai* (Miyazaki)." 16, 184-185.
- *b. ISSHIKI, O., 1950.—"A case of natural infection with *Paragonimus ohirai* in the dog." 17, 28-31.

674—Medicine and Laboratory Progress. Cairo.

- a. NOUR EL DIN, G., 1950.—"Phenothiazine in Enterobius infection of man." 11 (2), 41-46.

(674a) Four grammes of phenothiazine was administered daily for seven days to 25 adults with Enterobius. Fifteen of the patients regularly attended for observation. Eight of them were completely cured after the week's course. Three required a second course of treatment. From the remaining four, eggs were recovered at the end of one and two weeks. The same dosage had no effect on five cases of ascaris and eight cases of hookworm infection. The large dose of 8 gm. daily for seven days, recorded as successful in ascaris cases by Manson-Bahr, is considered to be unsafe as it may cause toxic symptoms especially in anaemic cases. R.T.L.

675—Medisch Maandblad. Batavia.

- a. HAUSMAN, R., YOE TJIN LIONG & FOSSEN, A., 1950.—"Een geval van cysticercose met enkele aantekeningen over taeniasis in Indonesië." 3 (1), 6-8.
- b. ERP, T. VAN, 1950.—"Creeping eruption." 3 (6), 226-227. [English summary p. 227.]

(675a) [An English translation of this paper appeared in *Docum. neerl. indones. Morb. trop.*, 1950, 2, 59-61. For abstract see *Helm. Abs.*, 19, No. 181a.]

(675b) Two human cases of creeping eruption, apparently contracted from a domestic cat which had an infection of *Ancylostoma braziliense*, were cured by freezing with ethyl chloride. Tetrachlorethylene proved superior to hexylresorcinol in the treatment of the cat. R.T.L.

676—Medizinische Klinik.

- a. ERNST, W., 1950.—"Ein Beitrag zur Wirksamkeit des Phenothiazins in der Diagnose und Behandlung der Oxyuriasis." 45 (28), 863-866.
- b. WEISE, H., 1950.—"Ueber die Wurmbekämpfung durch Enzyme." 45 (35), 1096-1098.
- c. WOLFF, L. & TEUSCH, W., 1950.—"Über den Befall von Russlandheimkehrern mit *Hymenolepis nana*." 45 (41), 1313-1316.
- d. KOCH, F. W., 1950.—"Die Barettsche Operation der Lungen-Echinokokkus-Cyste." 45 (45), 1443.

(676a) Ernst has used the two-day treatment with "Contaverm" (each tablet containing 0.2 gm. phenothiazine) as a means of diagnosing Enterobius infection. Of 460 male prisoners

treated 180 (39.13%) revealed worms in the stool on the first or second day after treatment. These figures correspond with those obtained by other workers using proven methods (cellophane swab, post-mortem examination) and Ernst concludes that the "Contaverm" treatment is a reliable diagnostic method. After an interval of 18 to 20 days 155 of the 180 positive prisoners were given a further course of "Contaverm": after treatment only 8 of the men remained positive, and of these 6 were cured after a third treatment, again with an interval of 20 days. Ernst considers that "Contaverm" fulfils as nearly as possible the requirements of an ideal anthelmintic.

A.E.F.

(676b) Vermizyme, a papain preparation made from *Carica papaya* disintegrates the cuticle of *Ascaris* and *Enterobius*, and so allows the digestive juices to act upon them. It is recommended as a useful method of treatment. Four dragées at a time are given at hourly intervals until the total dose reached is 20, or in severe cases 25 dragées in doses of five may be given. Castor oil is then administered.

R.T.L.

(676c) Wolff & Teusch report that a "large percentage" [no figures are given] of prisoners-of-war returning to Germany from Russia are infected with *Hymenolepis nana*. They discuss the epidemiology of this infection and the morphology and bionomics of the parasite and suggest chenopodium oil or male fern extract as the remedies of choice.

A.E.F.

677—Medizinische Monatsschrift. Stuttgart.

- *a. MENDHEIM, H. & SCHEID, G., 1950.—"Über die Verwendung von Sulfonamiden zur Therapie von Wurmkrankheiten." 4, 199-200.
- *b. HERRMANN, G., 1950.—"Über einen neuen Weg der Bekämpfung der Oxyuriasis." 4 (6), 449-451.

678—Medycyna Doświadczalna i Mikrobiologia. Warsaw.

- a. PRZYBYŁKIEWICZ, Z. & KOSTRZEWSKI, J., 1950.—"Odczynny serologiczne i odczynny skórny w raciborskiej zarazie włośnicy." 2 (2), 168.
- b. DOBROWOLSKA, H., 1950.—"Odczyn wiązania dopełniacza surowic ludzkich z antygenem wyodrębnionym z *Taenia saginata*." 2 (2), 168-169.
- c. JANICKI, M., KONOPACKA, B. & DYMOWSKA, Z., 1950.—"Robaki i pierwotniaki przewodu pokarmowego ludności miasta Warszawy w latach 1940-1943." 2 (3/4), 586-598. [English & Russian summaries p. 597.]

(678a) The authors report their results on the immunological responses in trichinosis with antigen produced by Behring works. The intradermal test in 98 infected persons was positive in 77.5% and negative in 22.5%. The more strongly positive results were obtained in severe cases. The complement fixation test made on 69 persons gave 65.2% positive, 10% doubtful and 24.6% negative results. In very severe cases the test was 100% positive. The precipitin test was carried out on 12 persons and was positive in 25%, doubtful in 33% and negative in 41.6%. In the authors' opinion the sero-allergic tests have a relative value in the diagnosis of trichinosis. In severe cases they confirm the diagnosis, although negative results do not exclude the possibility of infection.

C.R.

(678b) To test the presence of the specific antibodies Dobrowolska examined 50 sera (10 from persons infected with *Taenia saginata* and 40 sera from uninfected persons, 20 of whom showed positive Wassermann reactions and 20 negative). She used four antigens: (i) saline extract of tapeworm, (ii) alcohol extract of tapeworm, (iii) lipid-carbohydrate fraction and (iv) carbohydrate fraction. With the first antigen she obtained a very weak complement fixation test, with the second antigen a reaction similar to Wassermann and with the third antigen a high percentage of specificity in the complement fixation test. The fourth had no antigenic property.

C.R.

(678c) Of 11,217 persons examined in Warsaw 26.7% were infected with parasites. *Trichuris trichiura* occurred in 20% and *Enterobius vermicularis* in 18%; *Ascaris lumbricoides* was also common.

S.W.

679—Mémoires de l'Académie de Chirurgie. Paris.

- a. DOR, CRISTOFARI & DE ANGELIS, 1950.—"A propos du traitement des kystes hydatiques du poulmon. L'exérèse du kyste avec son adventice est-elle possible?" 76 (20/21), 611-616.
- b. DEMIRLEAU, J., 1950.—"Réflexions sur le traitement du kyste hydatique du poulmon, d'après 80 observations." 76 (22/23), 660-665.
- c. ALLENDE, J. M. & LANGER, L., 1950.—"Traitement chirurgical de l'hydatidose pulmonaire." 76 (22/23), 665-669.
- d. DUBAU, R., 1950.—"Traitement des kystes hydatiques non compliqués du poulmon. Enucleation en plèvre libre, sans ouverture préalable." 76 (22/23), 683-685.

680—Mémoires de l'Institut Français d'Afrique Noire. Paris.

- a. DOLLFUS, R. P., 1950.—"Contribution à l'étude de l'Air. Helminthes." No. 10, pp. 85-89.

(680a) *Railletina* (*Paroniella*) *corvina*, *Serratospiculum* sp. and an imperfect gordiid were three species collected by Chopard & Villiers at Air in French West Africa. R.T.L.

681—Mémoires de l'Institut Royal des Sciences Naturelles de Belgique.

- a. SCHUURMANS STEKHOVEN, Jr., J. H., 1950.—"The freeliving marine nemas of the Mediterranean. I. The Bay of Villefranche." Série 2, Fasc. 37, 220 pp.

(681a) Marine nematodes collected by Dr. E. Leloup at Villefranche in 1934 are described by Schuurmans Stekhoven and illustrated by 145 text figures. The 614 specimens were found to belong to 144 species. Eighty are described as new to science and one is renamed. Eight new genera are created, viz., *Anoncholaimus*, *Metachoniolaimus*, *Paralongicyatholaimus*, *Paraseuratiella*, *Paradesmodora*, *Paracomesoma*, *Paratripyloides*, and *Perilinhomoeus*. *Parachromogasteriella* is transferred from *Axonolaimidae* to *Linhomoeidae*. R.T.L.

682—Memorias do Instituto Oswaldo Cruz.

- a. LOBATO PARAENSE, W. & MALHEIROS SANTOS, J., 1950.—"Dados negativos sobre a ocorrência do *Tropicorbis centimetralis* em Belo Horizonte (Estado de Minas Gerais)." 48, 199-212. [Also in English pp. 213-218.]
- b. MACHADO FILHO, D. A., 1950.—"Revisão do gênero *Prosthenorchis* Travassos, 1915 (*Acanthocephala*)." 48, 495-544.

(682a) In 1918 Lutz described *Tropicorbis centimetralis* in Minas Geraes as the only species found by him in the city of Belo Horizonte. Vianna Martins in 1938 stated that he never found any molluscs in the city which could be identified as *T. centimetralis* with certainty, even in those places where Lutz found them in abundance. As a result of new investigations which included a biometric analysis of all the specimens found, of which 161 were infected with *Schistosoma mansoni*, Paraense & Santos conclude that the biological modifications of all the specimens examined lie within the range of *Australorbis olivaceus*. With one exception the infestations with *S. mansoni* occurred exclusively in specimens within the range of 12-30 mm. The results of these observations indicate that *T. centimetralis* does not exist in Belo Horizonte. R.T.L.

(682b) In this revision of *Prosthenorchis*, 20 species including 13 new to science are described and figured and their chief characteristics tabulated. The parasites are also classified under their hosts. The new forms are *P. juxtatesticularis* n.sp. from *Callithrix leucocephala*, *P. lenti* n.sp. from *C. geoffroyi*, *P. confusus* n.sp. and *P. freitasi* n.sp. from *Cebus* sp., *P. travassosi* n.sp. from *C. frontatus*, *P. rugosus* n.sp. from *C. cay.*, *P. septemserialis* n.sp. from *Mystax ursulus*, *P. lemuri* n.sp. and *P. dollfusi* n.sp. from *Lemur fulvus*, *P. procyonis* n.sp. from *Procyon cancrivorus*, *P. potosi* n.sp. from *Potos flavus*, *P. pinto* n.sp. from *Conepatus suffocans* and *P. gethi* n.sp. from *Tayra barbara*. R.T.L.

683—Minerva Medica.

- a. CIONI, A. & MIANO, G., 1950.—“Cisti di echinococco del fegato apertasi nelle vie biliari e diagnosticata con sondaggio duodenale.” Anno 41, 1 (6), 245-246.
- b. COPELLO, F. & VITTONI, G., 1950.—“Primi risultati di una nuova terapia dell'oxiurosi.” Anno 41, 2 (51), 712-717.
- c. GAGNA, F., 1950.—“Considerazioni clinico-radiologiche sulle cisti da echinococco polmonare.” Anno 41, 2 (52), 747-754.
- d. BELLUZZI, V., 1950.—“Occlusione intestinale acuta da elmintiasi.” Anno 41, 2 (62), 1169-1170.

(683b) Copello & Vittone treated 29 cases of enterobiasis with suppositories containing copper oxyquinolinsulphonate 0.03 gm., camphor 0.03 gm., cocoa butter to 1.6 gm. They claim cures in 22 (75.7%) of the patients, after administration of one suppository daily for eight days, followed by eight days' rest, the course being repeated 3 to 8 times. They commend the lack of caustic or toxic symptoms and the ease of administration. E.M.S.

684—Minerva Pediatrica. Turin.

- a. DOGNINI, E. & ABBA, G. C., 1950.—“L'appendicite da ossiuri.” 2 (1), 49-51. [English, French & German summaries p. 51.]

(684a) *Enterobius vermicularis* were present in the appendix of 19 out of 142 patients (13.2%) who were operated on for appendicitis in the children's hospital at Brescia during 1947. P.M.B.

685—Miscellaneous Publications. Michigan Department of Conservation.

- *a. ALLISON, L. N., 1950.—“Common diseases of fish in Michigan.” No. 5, 27 pp.

686—Monatshefte für Veterinärmedizin.

- a. NEUMANN-KLEINPAUL, K. & SCHEBITZ, H., 1950.—“Die Wirkung des Reconox auf die Strongylien beim Pferd.” 5 (7), 185-187.
- b. STOEBBE, E., 1950.—“Eine verbesserte Methode zum Nachweis von Leberegelern.” 5 (11), 295.

(686a) Since phenothiazine is not available in eastern Germany in sufficient quantities for the treatment of equine strongylosis, Neumann-Kleinpaui & Schebitz have tested “Reconox” (aa' dibenzo-1-4 sulphoxazine) against this infection. “Reconox” has been used with success against enterobiasis in man (the name is made up of the first syllable of each word of “*Remedia contra Oxyuris*”) and is said to be identical with phenothiazine in appearance, chemical behaviour and in effect. The authors report that a single dose of 30 gm. or 35 gm. “Reconox” reduces the strongyle egg count in horses by 97%. A dose of 20 gm. on each of three successive days had a better effect against all strongyles in adult horses and reduced the egg count by up to 100%. It is well tolerated in therapeutic doses. A.E.F.

(686b) Stoebbe describes a new method for examining faeces of cattle, sheep and goats for *Fasciola hepatica* eggs. To a sample of faeces the size of a walnut, 30 c.c. of distilled water are added, the mixture is sieved, stained with indian ink in the proportion of 1:10 and then centrifuged for 5-10 minutes. After pouring off two-thirds of the liquid, the sediment is thoroughly mixed and poured into a petri dish and after a short time is microscopically examined. Any *F. hepatica* eggs present appear golden-yellow against a dark background. By this method Stoebbe demonstrated infection in 33% more cases than by that of Pusch, Senne & Meyer. P.M.B.

687—Monitore Zoologico Italiano.

- a. BRUNETTI, B., 1950.—“Osservazioni critiche sul genere *Enoploides* Saveljev 1912 (Nematoda, Enoplata).” 58 (1/6), 45-48.

(687a) Brunetti discusses four species of the free-living marine nematode *Enoploides*

in which the number of cephalic setae is greater or less than ten: *E. labiatus* (Bütschli) and *E. longisetosus* Schuurmans-Stekhoven with six setae, *E. italicus* (Steiner) with twelve, and *E. dura-pelle* Kreis with four only. It is suggested that division of the genus may eventually be justified, but that meantime the definition of the genus and of the subfamily Enoplinae should be widened to admit species with other than ten cephalic setae. E.M.S.

688—Montpellier Médical.

- a. HARANT, H. & CARON, M., 1950.—“L'oxyurose et son traitement moderne.” 37-38 (6), 456-457.

(688a) In cases of enterobiasis Harant & Caron report the disappearance of pruritus and an improvement in the patients' general condition by using suppositories of garlic to which a little eucalyptus was added. There was no irritation of the intestinal mucosa. P.M.B.

689—Münchener Medizinische Wochenschrift.

- a. SCHMIDT, J. & MENDHEIM, H., 1950.—“Die Therapie der Oxyuriasis mit Triphenylmethanderivaten.” 92 (15/16), 624-626.
 b. MENDHEIM, H., SCHMIDT, J. & SCHEID, G., 1950.—“Beitrag zur fermentativen Therapie der Helminthiasis. (Vorläufige Mitteilung).” 92 (25/26), 1047-1048.
 c. SCHEID, G., 1950.—“Über lokale Puderbehandlung bei der Oxyuriasis.” 92 (35/36), 1469-1470.

(689a) Schmidt & Mendheim have used “Atrimon” (containing the carbinol base of penta- and hexa-methyl-*p*-rosaniline, the gentian violet dye) in the treatment of enterobiasis in children. The substance is given in the form of dragées and the dosage is 10 mg. per year of life per day, for seven days. Of 84 children 60 were cured after a single treatment and a further 19 were cured by a second treatment after four weeks' interval. There were no side effects. A.E.F.

(689b) Mendheim and co-workers present a brief preliminary report on their experiments in the treatment of helminthiasis with the proteolytic enzyme “Nematolyt”. A dose of from 10 gm. to 20 gm. is given and is very well tolerated with no side effects. In four of 23 cases of *Ascaris* infection treated with “Nematolyt” decomposed worms or fragments were recovered from stools. Experiments with *Trichuris* and *Enterobius* infections are still in progress. A.E.F.

(689c) The application of a liberal quantity of Marbon powder to the anal region at night is claimed to give encouraging results in the treatment of enterobiasis, especially in children. The female worms cannot cross the treated area and the life-cycle is thus interrupted. Marbon is a strongly hydrophilic silicic acid colloid with a bactericidal component which has been used successfully for various skin diseases. [No results are quoted.] P.M.B.

690—Municipal Engineering. London.

- a. MARSDEN, K. H., 1950.—“*Cysticercus bovis*: a review of twelve months' work in Watford.” 125 (3135), 46-48.

(690a) In recent years *Cysticercus bovis* has been noticed in increasing numbers in English home-killed cattle. The infection rate in 1949 at Watford, Herts, was 4.2%. In 254 infected carcasses seen in 1949 viable cysts were found in 92 and degenerate cysts in 235. From one generalized case in a grade “A” steer about 2½ years old, 194 viable and 151 degenerate cysts were collected. Statistics quoted from the Ministry of Food show that the proportion affected in 1949 of the total killed in England and Wales was 0.61% in August and 0.54% in September and October, and in Scotland 0.65% in August, 0.47% in September and 0.55% in October. Inquiries at many of the farms concerned failed to reveal the sources of infection. R.T.L.

691—Nachrichten der Sammelstelle für Schmarotzerbestimmung. Naturwissenschaftliches Museum der Stadt Aschaffenburg.

- a. NOLL, W., 1950.—“Eine Masseninfektion von *Gammarus pulex fossarum* Koch mit *Polymorphus minutus* Goetze.” No. 29, pp. 13–15.

(691a) Over 60% of the *Gammarus pulex fossarum* collected from a brook near Aschaffenburg contained *Polymorphus minutus* larvae. The faeces of the ducks contained numerous eggs of *P. minutus*.
R.T.L.

692—Natural History Miscellanea. Chicago.

- a. TINER, J. D. & RAUSCH, R., 1950.—“Two new *Syphacia* (Nematoda : Oxyuridae) and observations on the inner circle circumoral papillae in North American species of the genus.” No. 57, 6 pp.

(692a) In *Syphacia arctica* n.sp. collected from *Dicrostonyx groenlandicus rubricatus* at Point Barrow, Alaska, the eggs measure less than 100 μ in length in combination with a female tail 0.85 mm. to 1.01 mm. long. The males cannot readily be distinguished from those of *S. obvelata*, *S. nigeriana*, *S. venteli* and *S. muris*. Both sexes of *Syphacia citelli* n.sp. found in *Citellus armatus* in the Jackson Hole Wildlife Park, Wyoming are larger than *S. eutamii*. The post-anal cuticular projection in the male is longer and in the female the vulva is located more posteriorly. The lips are not bisected but have an even and convex surface with slight striations pointing medially. There are 12 figures.
R.T.L.

693—Nederlandsch Tijdschrift voor Geneeskunde.

- a. LIE KIAN JOE, 1950.—“Twee zeldzame worminfecties uit Indonesië.” 94 (17), 1223–1224.
b. LANGEN, C. D. DE, 1950.—“Hyper eosinophilie.” 94 (25), 1746–1750.
c. BERG, J. A. G. TEN, 1950.—“Enkele parasitaire ziekten bij repatriërende missionarissen.” 94 (30), 2224–2227.
d. BERG, J. A. G. TEN, 1950.—“Schistosomiasis (lever- en rectumslijmvliesbiopsie).” 94 (51), 3730–3731.

(693a) Lie Kian Joe deals briefly with two rare forms of helminthiasis in Indonesia. A male specimen of *Gnathostoma spinigerum* was recovered from a painful swelling in the right flank of a 26-year-old Chinaman who had lived in Java all his life. This is the first record of this species from Indonesia. Single specimens of *Plagiorchis javensis* were recovered from the small intestine of an Indonesian and a Chinaman in Indonesia. These are the fourth and fifth records of *P. javensis* infection in man.
P.L.ler.

(693b) De Langen's contention is that tropical eosinophilia is always due to parasitic infections. He describes two cases in which the eosinophilia and clinical symptoms disappeared after treatment for Strongyloides infection.
P.L.ler.

(693c) Ailments in repatriated missionaries are often difficult to diagnose. One who had been treated with emetine for suspected amoebic dysentery showed *Schistosoma mansoni* eggs at liver biopsy and eggs in rectal mucus although absent from faeces. Another gave eggs of *S. japonicum* on liver biopsy and on microscopical examination of the faeces, although he had received courses of foudadin. Nine missionaries from the British Cameroons and the Congo had *Loa loa* but had been sent to hospital for other complaints. The microfilariae which in one case numbered 2,257 per 60 c.c. of blood, decreased to 30 per 60 c.c. after hetrazan treatment. Hetrazan is also effective against *Wuchereria bancrofti*, but it may be 10–16 months before the microfilariae disappear.
R.T.L.

(693d) Ten Berg gives brief notes on two cases of schistosomiasis in missionaries: one was due to *Schistosoma mansoni* contracted in Uganda and was diagnosed by rectal biopsy and treated with foudadin. The other was due to *S. japonicum* acquired by bathing in the Yangtze River and was diagnosed by faecal examination and liver puncture; treatment with tartar emetic was not successful but foudadin was found to be effective.
R.T.L.

694—Neue Medizinische Welt. Stuttgart.

- a. SCHENCK, G., 1950.—"Über das Tetrachloräthylen als Wurmmittel." 1 (12), 418-419.
- b. GIERTHMÜHLEN, F., 1950.—"Vergleichende diagnostische u. therapeutische Untersuchungen bei der Oxyuriasis." 1 (12), 419-421.
- c. BOHN, H., FEDTKE, H. & ORTMANN, P., 1950.—"Neue Wege in der Bekämpfung der Nematoden-Infektion beim Menschen." 1 (24), 858-860.

(694a) Schenck gives a short account of M. C. Hall's pioneer work on tetrachlorethylene and summarizes other work on the chemistry, pharmacology and the therapeutic effect of the drug against hookworm and *Enterobius*. He emphasizes the fact that tetrachlorethylene is much safer than other drugs for use with children. A.E.F.

(694b) Gierthmühlen has tested modifications of the Jacobs adhesive cellophane tape technique for the diagnosis of enterobiasis. He finds that the best results are obtained when the cellophane tape is left on the peri-anal region all night, removed in the morning and examined on a microscope slide. For treatment, Gierthmühlen recommends tetrachlorethylene in capsules of 0.5 gm.; for children the dose is one to five capsules according to age and for adults, five to six tablets. The dose may be repeated if necessary after an interval of 14 days and a third dose may be given after a further 14-day interval. Of 56 children treated by this method, 46 were cured after one dose, a further six after a second dose and all egg counts were negative after a third dose. Except for slight transient giddiness in one or two children, there were no side effects. A.E.F.

(694c) Bohn *et al.* report on a series of clinical trials of Nematolyt (a proteolytic enzyme which attacks and destroys the keratin integument of worms) in the treatment of nematode infections in man. Varying doses from 10 gm. up to 30 gm. administered orally resulted in complete cure in 21 of a series of 36 cases of ascariasis; amounts of 40 gm. (in four doses spread over the whole day) were successful in all but two cases. In a very few cases [number not given] 60 gm. was administered over two days and this is considered to be the optimum dose. All doses were well tolerated. From a total of 50 cases of ascariasis treated with Nematolyt the authors conclude that it is a most promising drug. Treatment for *Trichuris trichiura* infection was carried out by means of enemas: two were administered each containing 12.5 gm. Nematolyt. A complete cure was obtained in six out of seven cases. Although no tests were made against enterobiasis it was noticed that many specimens of this parasite were expelled during treatment for other nematodes and the authors suggest further trials. Nematolyt had no effect on nematode ova or on *Taenia*. A.E.F.

695—Neuropsiquiatria. Buenos Aires.

- a. INSAUSTI, T., 1950.—"Cisticercosis cerebral." 1 (3), 269-298.

(695a) Insausti describes the clinical and radiographical findings and the anatomopathological changes in six cases of cerebral cysticerciasis, five of which died. P.M.B.

696—New York State Journal of Medicine.

- a. BRUNO, M. S. & GOODGOLD, M., 1950.—"Meningoencephalitis due to *Trichinella spiralis*." 50 (6), 707-710.
- b. SCHROEDER, M. J., 1950.—"Trichinosis simulating sinusitis." 50 (21), 2570.

697—Nippon Journal of Angio-Cardiology.

- *a. KOKUBU, M., 1950.—"Studies on the experimental myocarditis produced by *Ascaris* protein (4 and 5)." 13 (9/10), 254-260.

698—Nordisk Veterinaermedicin.

- a. BENDIXEN, H. C., ROTH, H. & THORDAL-CHRISTENSEN, A., 1950.—“Natriumfluorid som middel mod spolorm hos svin.” 2 (5), 385-404. [English & German summaries pp. 401-404.]
- b. JEPSEN, A. & ROTH, H., 1950.—“Parasitologiske og bakteriologiske problemer vedrørende spildevand, specielt i forbindelse med oversprøjtningemetoden. Undersøgelser over forekomsten af æg af *Taenia saginata* i byspildevand samt iagttagelser over fordelingen af *Cysticercus bovis* hos tintede kalve.” 2 (11), 967-991. [English & German summaries pp. 987-991.]

(698a) The dosage schedule advocated by Turk & Hale (1948) for the administration of sodium fluoride to pigs was followed in the treatment of 53 pigs without untoward effects except vomiting and transient diarrhoea. 404 worms were expelled by 47 pigs in one to seven days, the greatest number being on the third day. Five of the pigs were not infected with *Ascaris*. Seven pigs from which 75 worms had been evacuated, on being slaughtered, contained three worms. The effectiveness of the treatment was 96.2%. The authors recommend 0.5 kg. of ground grain thoroughly mixed with 1% sodium fluoride for pigs weighing 12.5-25 kg. For pigs 25-37.5 kg. the dose may be repeated when the first has been eaten. Pigs of 37.5-50 kg. may be given a third dose and for those over 50 kg. a fourth dose, but more than four doses should not be given even to large pigs. It is emphasized that sodium fluoride is poisonous to man and precautions should be taken against its inhalation. It is recommended that sodium fluoride should be coloured before distribution.

R.T.L.

(698b) That the incidence of *Cysticercus bovis* and *Taenia saginata* has steadily increased in Denmark in recent years is illustrated by three tables. Most of the infected carcasses have small numbers of cysts and are single cases from scattered farms. Jepsen & Roth consider that contacts between cattle and human carriers on farms are of less importance than that between cattle and city sewage which seems to provide a reservoir of infection. In 1949 two pastures were irrigated by a revolving sprinkler with presedimented sewage from a city district of Copenhagen and grazed by 20 calves four weeks old. After four to five and a half months on the irrigated pasture all the calves had become infected with *C. bovis*. It is pointed out that the usual methods of sewage treatment including sedimentation, trickling filters, anaerobic and activated sludge digestion, sludge drying and chlorination fail to destroy helminth eggs and that only proper use of sand filtration, and possibly other physical means, will remove them from sewage effluent. The usual meat inspection routine frequently fails to reveal cysticerci. In heavily infected calves only 6% of the cysts were located in the heart, masseters and tongue, whereas in those lightly infected 20% of the total number of cysts were found in these situations.

R.T.L.

699—Norsk Pelsdyrblad.

- a. ROCHMANN, R., 1950.—“Trikinosen er en fare som kan og skal fjernes.” 24 (17), 283-284.

(699a) Trichinosis is rather common in fur-bearing animals on farms in Norway. *Trichinella* was found in more than 18% of the 146 farms investigated in 1948. This dangerous parasite can be controlled by killing the rats and by destroying the bodies of fur animals when killed.

S.B.

700—Notas Agronomicas. Estación Agrícola Experimental de Palmira, República de Colombia.

- a. CARDEÑOSA BARRIGA, R., 1950.—“Estudio preliminar sobre agentes terrícolas posibles causantes de la ‘rayadilla’ del plátano.” 3 (2), 109-123.

(700a) Cardeñosa Barriga has failed to reproduce “rayadilla” experimentally in the Cauca Valley, Colombia, where the disease is endemic. The test plants were *Musa paradisiaca* raised from seed from a clean area and grown in sterilized and unsterilized soil. The disease may be due to a fungus or possibly to *Tylenchus similis* or *Heterodera*

marioni. Two photomicrographs are reproduced showing (i) a larval nematode and (ii) nematode ova in sections of a plantain root. It is suggested that the nematodes may be transported by *Pentalonia nigronervosa*.
B.T.L.

701—Notiziario sulle Malattie delle Piante. Milan.

- a. CIFERRI, R. & BERTOSSI, F., 1950.—“Efficacia nematicida ed anticrittogamica del ‘parathion’.” Year 1950, No. 12, pp. 59–64. [English summary p. 64.]

(701a) Ciferri & Bertossi have used two commercial brands of parathion in five doses from 25–400 mg. per kg. of dry soil, to control damping-off of Burley tobacco seedlings (the highest dose reduced damping-off to about one third), and root-knot. In each pot 30 tobacco seedlings were transplanted immediately after the wettable parathion powder had been thoroughly mixed with the soil; controls of untreated and steam-sterilized soil were used, and the results were judged by counting galls on washed roots after five weeks. Counts were grouped into six frequency classes (0, 1 to 10, 11 to 20, 21 to 30, 31 to 40, 41+) scored 0 to 5, and an infestation index was computed as the average score. The indexes ran from 3.2 in the untreated control to 0.3 at the highest dose, in rough proportion to dose, the majority of plants at the highest dose being uninfested. There were no obvious phytocidal effects.
B.G.P.

702—Nuova Veterinaria.

- a. CARGNEL, A., 1950.—“Fattori epidemici ed epizootici su di una epizoozia da echinococco nel maiale.” 26 (2), 68–70.
b. WAGNER, L., 1950.—“La patogenesi dell’echinococcosi nel quadro epidemiologico ed epizootologico.” 26 (6), 212–214.
c. VISINTINI, A., 1950.—“L’infestazione da ascaridi quale frequente causa di paraplegie e paralisi nei giovani cani.” 26 (12), 416–419.

(702c) Visintini does not agree with the text-book descriptions of the nervous symptoms of ascariasis in young dogs as being excitatory. From his own experience, he supports the description given in Stang-Wirth: Tierheilkunde und Tierzucht. He describes four typical cases and concludes that when nervous symptoms are shown they are commonly of posterior paralysis rather than of excitement; that such symptoms are usually shown only in puppies under three months of age; and that, conversely, symptoms of posterior paralysis in young puppies can generally be ascribed to ascariasis.
E.M.S.

703—Österreichische Kleintierzüchter.

- *a. ENIGK, K., 1950.—“Zur Epidemiologie des Strongyloidesbefalles des Sumpfbibers.” Year 1950, pp. 874–875.

704—Ohio Journal of Science.

- a. OLIVE, J. R., 1950.—“Some parasites of the prairie mole, *Scalopus aquaticus machrinus* (Rafinesque).” 50 (6), 263–266.

(704a) The helminth species collected from 42 prairie moles, *Scalopus aquaticus machrinus*, in Ohio were *Physaloptera limbata*, *Moniliformis clarki* and *Hymenolepis* sp.
R.T.L.

705—Ortopedia e Traumatologia dell’Apparato Motore.

- *a. FAGGIANA, F., 1950.—“Le echinococcosi del polmone metastatiche a localizzazioni dello scheletro.” 18, 107–115.

706—Osaka Daigaku Igaku Zassi.

- a. FUSHIMI, J., 1950.—[Studies on *in vitro* test of the ascaricides (Report II). The worm-side factors upon the results of *in vitro* test of hexylresorcinol.] 2 (5), 407–413. [In Japanese : English summary p. 407.]

- b. NAGAI, A., 1950.—[On the influences of anthelmintics upon the number of eggs of the human ascarids in feces (Report III). In case of the administration of hexylresorcinol and isoamylresorcinol, with a short note in case of hexylchlororesorcinol.] 2 (5), 415-424. [In Japanese : English summary p. 415.]

(706a) *Ascaris lumbricoides* females less than 30 cm. in length are heavier from man than from pigs, while in those exceeding 30 cm. this is reversed. Male specimens of equal length are heavier in man than in pig. These differences are possibly of no significance in classification but may become so in *in vitro* experiments.

R.T.L.

(706b) When hexylresorcinol and isoamylresorcinol are administered in cases of *Ascaris lumbricoides* infection, the number of eggs in the faeces decreases, irrespective of evacuation of worms, to a minimum number in about eight days. It is therefore suggested that egg counts should be made three weeks after the administration of these drugs. R.T.L.

707—Pakistan Economic Journal.

- *a. SARWAR, M. M., 1950.—"Economic relationship of pimply-gut worm of sheep." 1 (4), 57-59.

708—Papers and Proceedings of the Royal Society of Tasmania.

- a. CROWCROFT, P., 1950.—"A revised description of *Dolichopera macalpini* Nicoll, 1914 (Plagiorchiidae—Trematoda)." Year 1949, pp. 73-76.

(708a) *Dolichopera macalpini*, the only trematode which has so far been recorded from the tiger snake *Notechis scutatus*, is figured and described in detail from the vicinity of the Arthur Lakes. Several differences which may be due to omissions from the earlier descriptions of McAlpine and Nicoll may indicate variation between the Tasmanian and Australian forms.

R.T.L.

709—Parazitologicheskii Sbornik.

- a. BIKHOVSKI, B. E. & GUSEV, A. V., 1950.—[The family Diclybothriidae (Monogenoidea) and its systematic position.] 12, 275-299. [In Russian.]
 b. DUBININA, M. N., 1950.—[Ecological investigations of the parasite fauna of the lake frog (*Rana ridibunda* Pall.) in the Volga delta.] 12, 300-350. [In Russian.]
 c. DUBININA, M. N., 1950.—[Tapeworms of birds hibernating in southern Tadzhikistan.] 12, 351-381. [In Russian.]

(709a) A new family Diclybothriidae is proposed to include *Diclybothrium* Leuckart, 1835 and *Paradiclybothrium* n.g. These two genera show affinity to the family Hexabothriidae to which they have been previously referred. They differ, however, from the latter not only in morphological characters but also by their specificity to fresh-water fish of the Acipenseridae and the Polyodontidae while the Hexabothriidae are parasites of marine rays and sharks. The history of *Diclybothrium* is given. *D. armatum* is described and illustrated and its synonyms quoted; the larva, observed alive, has three pairs of lateral bunches of cilia. Its hosts are several species of sturgeon from European, Asiatic and North American basins. *Paradiclybothrium pacificum* n.sp., a gill parasite of *Acipenser medirostris* from the Tartar Channel, is described.

G.W.

(709b) During a biological investigation of *Rana ridibunda* in the Volga delta it was observed that the larval trematode, *Codonocephalus urnigerus*, causes castration which reaches over 30% at the age of five. All the adults harboured trematodes and 86%-93% nematodes. The number of species found was 20 trematodes, 7 nematodes, 1 cestode (*Tetrathyridium mesocestoidini* "larva nov."), and 2 leeches. Descriptions and ecological observations concerning most of the species are given. Among the nematodes were *Contracaecum longicaudatum* "larva nov.", found free in the bile ducts and encapsulated on the intestinal wall, and the larvae of *Gnathostoma hispidum* Fedtschenko, 1872, in capsules in muscles

and on the intestinal wall. Most of the trematodes ceased to develop during the hibernation of the host but *Cosmocerca ornata* and *Haematoleechus variegatus* continued their development and activity. *Oswaldocruzia filiformis* had a short life and at the end of hibernation disappeared from the intestine of the frog. G.W.

(709c) Five hundred birds belonging to 60 species were dissected during the winter of 1939 to 1940. Most of them had come from West Siberia and Kazakhstan to winter in southern Tadzhikistan. Forty-eight species of tapeworms were found, of which two proved to be new, viz., *Choanotaenia tugarinovi* n.sp. from *Saxicola torquata* and *Rhabdometra nigromaculata* n.sp. from *Phasianus colchicus bianchii*. An average of 7.71% of the birds harboured tapeworms. No tapeworms were found in 21 host species, mainly Passeriformes. Except for *Anochotaenia globata* which parasitized a variety of hosts, other cestodes of the passerine birds were found only in one or two host species. Of the ducks, 84.21% harboured cestodes, mainly Hymenolepididae. G.W.

710—Pastoral Review. Melbourne.

- a. FETHERS, G., 1950.—“Shortage of phenothiazine for worm treatment. Some suggested alternatives.” 60 (11), 1209-1210.
- b. FETHERS, G., 1950.—“The menace of hydatids.” 60 (12), 1342.
- c. KENT, L. W., 1950.—“Shortage of phenothiazine for worm treatment. The use of alternatives.” [Correspondence.] 60 (12), 1367.

(710a) Fethers estimates that, owing to the wet season, 1,440 tons of phenothiazine would have been needed to fulfil all orders in New South Wales. He suggests that the cheaper drenches, copper sulphate with arsenic or copper sulphate with nicotine, could usefully serve to control intestinal helminthiasis during the summer months, while phenothiazine could be used for clinical cases only, and for cases of nodular worm in the higher rainfall districts of New South Wales and Queensland during wet seasons. He points out that as pastures become especially dangerous immediately after rain a move to a new area is then desirable. R.T.L.

(710b) Fethers draws attention to the alarming extent of hydatid in livestock in Victoria. Abattoir returns indicate that about 22% of cattle, 18% of sheep, 7% of lambs and 7% of pigs have hydatid. At least 140 persons are affected yearly, yet no sustained effort has been made to eradicate the infection. R.T.L.

(710c) As a grazier, Kent comments on Fethers' suggestion [see abstract No. 710a above] on the use of phenothiazine and alternative drenches. He finds that carbon tetrachloride, which Fethers only recommends for fluke infection, is very effective against *Haemonchus contortus*. A double dose, i.e. 10 c.c., will remove a “bottle jaw” in 24 hours. It is easy and quick to administer in contrast to copper sulphate and nicotine. R.T.L.

711—Pecuária. Loanda.

- a. SOUSA DIAS, V., 1950.—“Nota prévia sobre os parasitas dos animais domésticos de Angola.” Year 1947-48, 2, 17-45.
- b. SOUSA DIAS, V., 1950.—“Nótulas parasitológicas. IV—Cisticercoses pouco frequentes.” Year 1947-48, 2, 53-59.

(711a) This paper, which also covers protozoa and ectoparasites, gives brief notes on the incidence of five trematodes, 17 cestodes and 30 nematodes found in domesticated animals in Angola. R.T.L.

(711b) In Angola, *Taenia solium* is widespread in man, and *Cysticercus cellulosae* in the pig is one of the principal causes of condemnation at meat inspection. A case of cerebral infection is figured. *Cysticercus bovis* in cattle and *C. tenuicollis* in various ruminants are also prevalent. R.T.L.

712—Peking Natural History Bulletin.

- a. WU, P. N. & CHEN, H. H., 1950.—“The treatment of human fasciolopsiasis buski with betel nut.” 18 (3), 151-154.
- b. FENG, L. C. & LI, F., 1950.—“Two human cases of urinary infection with *Rhabditella axei* (Cobbold, 1884) Chitwood, 1933.” 18 (3), 195-202.
- c. HOEPPLI, R. & CH'ANG, I-HUNG, 1950.—“Parasites in Chinese and early western medicine—a comparison.” 18 (4), 207-243.
- d. HSU, P. K., 1950.—“A new trematode of the genus *Procerovum* from ducks and chickens in Canton (Trematoda : Heterophyidae).” 19 (1), 39-43.

(712a) Betel nut combined with cathartics is an old-fashioned remedy for *Fasciolopsis buski*. In 64 cases treated with a decoction of betel nut, the worms were totally removed by a single dose in 54.7%, by two separate doses in 39% and by three separate doses in 4.7%. One patient passed eggs after receiving four separate doses but the number of eggs in this case was reduced by 97%. Although nausea, vomiting and abdominal pain followed the administration of the drug, none of these were serious. R.T.L.

(712b) Feng & Li give clinical reports on two cases of *Rhabditella axei* in the urine and describe the parasite and its differentiation from *Turbatrix aceti* and *Rhabditis pellio* which have also been reported in human urine. Whether the worms were actually passed by the patients or were subsequent contaminations is discussed. R.T.L.

(712c) This article is divided into two sections. The first covers the period from ancient times to the middle of the 17th century and deals with: (i) the parasites known to Chinese and early western medical writers, (ii) imaginary parasites, (iii) origin of parasites according to Chinese and western writers, (iv) qualities and behaviour of parasites, (v) similar superstitions, (vi) supposed pathogenic action, (vii) supposed beneficial effects, (viii) use for therapeutic and cosmetic purposes, (ix) treatment. The second section covers the period from the middle of the 17th century to that of the 19th century and discusses the development of knowledge of parasites in the western world. There are 129 references. R.T.L.

(712d) *Procerovum cheni* n.sp. is described and illustrated from material experimentally reared by feeding cysts to ducklings and chickens. It differs from other species of the genus in possessing three large and distinct portions of the seminal vesicle. R.T.L.

713—Pharmaceutisch Weekblad. Amsterdam.

- a. WERTHER, M. H. & DEUZEMAN, H. H. J., 1950.—“De toepassing van hexylresorcinol als wormmiddel.” 85 (51/52), 950-951.

714—Pharmazie. Berlin.

- a. SEELKOPF, K. & AUTERHOFF, H., 1950.—“Versuche zur Auffindung von Wurmmitteln.” 5 (10), 463-467.

(714a) Seelkopf & Auterhoff describe their technique for *in vitro* testing of anthelmintics and give the results of their experiments with various substances. A vessel of from 300-500 c.c. capacity is used and three or four ascarids—or other test worms—are placed in 300 c.c. of Ringer's solution (D.A.B.6). The vessel must be easily sealable to prevent evaporation of volatile substances. The substance to be tested is then added, care being taken to ensure that even distribution is achieved. In order to keep conditions as close as possible to those obtaining *in vivo*, 0.05% ox bile is added to the solution. In evaluating results, worms are classed as “paralyzed” when repeated shaking of the vessel or radiation for at least one hour with a 40-watt lamp produce no movement; and as “dead” when immersion in pure physiological solution for four hours does not revive them. By this method, pig *Ascaris* were killed in 15-20 hours by 0.05% tridecylresorcinol and in seven hours by 0.05% santonin suspension. A number of insecticides were also tested with

Ascaris and 2,4-dioxydesoxybenzoin was found to be particularly effective. D.D.T. was only slightly toxic to *Ascaris*. The γ and δ isomers of hexachlorcyclohexane were more effective than the α and β : the crude substance was more effective than the γ -isomer. A.E.F.

715—Philippine Journal of Science.

- a. HSU, S. T. & WEI, B. Y., 1950.—“A new species of *Nematodirus* (Nematoda : Trichostrongylidae) from sheep.” 79 (1), 7-9.
- b. YUTUC, L. M. & OYZON, D. K., 1950.—“Comparative resistance of native with two imported breeds of chickens to *Ascaridia lineata* (Schneider).” 79 (3), 241-247.

(715a) *Nematodirus longispicularis* n.sp. is described and figured from the small intestine of three out of ten sheep at Sung San Tan in the Kansu Province of north-west China. It is distinguished from *N. spathiger*, *N. filicollis*, *N. abnormalis* and *N. furcatus* mainly by its extremely long spicules, by the absence of cuticular bosses on the male bursa and by the presence of a flap covering the vulva. P.M.B.

(715b) A significant difference occurred between the average number and length of *Ascaridia lineata* which developed from experimental infections in native chickens in the Philippines and in two imported breeds, indicating a greater resistance in the native breed. In 19 native birds there was an average of 2.05 worms per bird with a mean length of 21.41 mm., in 12 White Leghorns an average of 15 worms with a mean length of 30.54 mm. and in 6 New Hampshires an average of 17.33 per bird with a mean length of 29.9 mm. In two experiments 9 out of 29 native birds failed to become infected. P.M.B.

716—Philippine Journal of Surgery.

- a. HORRILLEN, E. G., 1950.—“Pathogenesis, symptomatology and management of ascaris appendicitis.” 5 (5), 187-195.

717—Plant Disease Notes. Canadian Phytopathology Society of British Columbia.

- a. HASTINGS, R. J., 1950.—“The destruction of the bulb nematode, *Ditylenchus dipsaci* by chemicals, and the nature of the killing action.” 1 (2), 13-16.

(717a) Hastings found that ethyl acetate had first an anaesthetic and then a lethal effect on *Ditylenchus dipsaci*, these effects being related to concentration and time of exposure. The vapour was more effective than the solution when the nematodes were active and under moist conditions. Of 27 other volatile liquids tested seven proved lethal in solution while two, acetic acid and formalin, were effective against dry eelworm wool. High concentrations of vapour sometimes caused violent death by bursting the nematodes. He suggests that the nematodes are killed by the effect of the chemicals on their respiration. J.B.G.

718—Policlinico (Sezione Pratica). Rome.

- a. FAGGIANA, F. & COSTANZO, D., 1950.—“Le sacroileiti parassitarie.” 57 (44), 1408-1411.

719—Poultry Science.

- a. RIEDEL, B. B., 1950.—“Speed of hatching and the resistance of chickens to *Ascaridia galli*.” 29 (5), 703-706.
- b. SADUN, E. H., 1950.—“Studies on the pathogenicity in chickens of single infections of variable size with the nematode, *Ascaridia galli*.” 29 (5), 712-722.
- c. RIEDEL, B. B., 1950.—“The use of grit and its effect upon ascarid infections.” 29 (6), 895-896.
- d. RIEDEL, B. B., 1950.—“The role of lysine on the resistance of chickens to *Ascaridia*.” 29 (6), 903-906.

(719a) Tabulated results show that the numbers of *Ascaridia galli* found in chickens three weeks after experimental feeding with 300 embryonated ova was not significantly affected by the speed at which the chickens had hatched. P.M.B.

(719b) Two groups of young chickens experimentally infected with single inoculations of 500 and 1,400 ova of *Ascaridia galli* developed atrophy of the thymus, splenomegaly and hepatomegaly; those with the heaviest infections showed a mild anaemia and severe leucocytosis after 10 days. Damage to the intestine and kidneys was noted 10 days after infection, but in birds examined 20 days after infection the intestinal condition had improved. The rate of growth was in inverse proportion to the degree of infection. P.M.R.

(719c) The abrasive action of grit in the diet of growing chickens did not increase the hatching of *Ascaridia galli* ova and thus affect significantly the increase in the weight of broilers under laboratory conditions. R.T.L.

(719d) Experiments showed that there was no significant difference in the number and lengths of *Ascaridia galli* present in chickens fed on low and high lysine diets. R.T.L.

720—Practitioner.

- a. SEATON, D. R., 1950.—“Current therapeutics. XXXV.—Anthelmintics.” 165 (989), 540-546.

721—Praktische Arzt (Der).

- *a. PESEC, A., 1950.—“Die Bandwurmkrankheit des Menschen.” 4 (38), 348-351.
 *b. KÖLE, W., 1950.—“Über wechselseitige Beziehungen zwischen Appendicitis und Oxyuriasis und deren therapeutische Beeinflussung.” 4 (40), 463-471.

722—Praxis. Berne.

- a. HERRMANN, E., 1950.—“Tödlich verlaufende Ascaridiasis.” 39 (41), 878-881.

723—Prensa Médica Argentina.

- a. NIÑO, F. L., 1950.—“Cisticercosis humana en la República Argentina. Estudio de una nueva observación.” 37 (50), 3040-3044. [English summary p. 3044.]

(723a) Niño describes a case of *Cysticercus bovis* in a lymph node of the meso-appendix which brings the number of human cases of cysticerciasis in Argentina to 51 in the last 65 years; these cases are summarized in a table. P.M.B.

724—Prensa Médica Mexicana.

- *a. VILLASEÑOR, T., 1950.—“Tratamiento experimental con emetina oral, 50 casos de tricocefalosis y 14 casos de uncinariasis.” 15 (6), 129-133.
 *b. TREVIÑO VILLASEÑOR, A., GARCÍA AROZAMENA, J. & BOSCH, L. DE L. J., 1950.—“Cuadro clínico poco habitual de tricocefalosis. Presentación de un caso.” 15 (7), 155-158.

725—Presse Médicale.

- a. GOINARD, P., NOTE, D. & GIRARDOT, 1950.—“Sur le traitement des kystes hydatiques du foie. L'épiplooplastie intra-cavitaire.” 58 (68), 1203-1205.
 b. VERGOZ & LAQUIÈRE, 1950.—“Des déformations radiologiques du diaphragme au cours de l'évolution des kystes hydatiques de la convexité du foie.” 58 (82), 1472-1473.

726—Proceedings of the American Society for Horticultural Science.

- a. WESTER, R. E., 1950.—“A comparison of greenhouse and field methods for evaluating lima beans for resistance to root knot nematodes.” 56, 395-400.

(726a) Wester tested a number of varieties and crosses of lima beans in parallel green-house and field tests for root-knot resistance. In the green-house the seed was sown in compost in 6" clay pots to each of which was added at sowing time approximately 200 egg-masses from a mixed culture of root-knot nematodes from lima beans. The pots were

plunged in sand kept at 90°F. for 94 days, when the plants were removed and the degree of root galling assessed. The field tests were made in an infested field: at sowing time approximately 1,000 egg-masses were added to each hill. The roots of the test plants were examined for galling 121 days after sowing. Bush type selections of lima beans from Oklahoma and viner type from California were tested: they were compared with Henderson, a susceptible variety. All selections developed more root-knot in the green-house than in the field and some began to die off after 66 days as compared with 121 days in the field. Selections showing resistance in the green-house also showed resistance in the field. Oklahoma N 12-3-1, N 50-1, N 13-3-2 and California L 76 were resistant both in green-house and field, as also to a lesser extent were N 15-2, N 10-1 and L 17. In the green-house only four out of 14 selections were significantly more resistant than Henderson, while 11 out of 14 were so in the field, showing that in the green-house conditions were more favourable for nematodes to damage the lima bean roots. A comparison of Henderson in uninoculated and inoculated rows in the field showed the great importance of inoculation even in soil known to be infected. In F₂ progeny tests most plants were killed: only California selection L 76 showed high nematode resistance. The green-house test method proved more rapid and severe than field tests and would enable large numbers of stocks and breeding lines to be tested.

M.T.F.

727—Proceedings. American Society of Sugar Beet Technologists, General Meeting.

- a. BOCKSTAHLER, H. W., 1950.—“The sugar beet nematode in Michigan.” 6th (1950), pp. 479-480.

(727a) *Heterodera schachtii* was found in 1948 in sugar-beet in a field of about three acres near Bay City, Michigan and in a field near Mount Clemens, Michigan. In 1949 samples of infected sugar-beet were collected from four fields near Indiantown, near Saginaw, Michigan.

R.T.L.

728—Proceedings of Annual Conference, New Zealand Society of Animal Production.

- a. TETLEY, J. H., 1950.—“The epidemiology of nematode parasitism in sheep with particular reference to Manawatu district.” 10th (1950), pp. 106-114. [Discussion p. 104.]

(728a) Tetley summarizes his experiments on the epidemiology of nematode parasitism in sheep with special reference to their application to the unique pastoral type of farming of New Zealand. Twenty-three intestinal and two pulmonary nematodes are listed, and their relative abundance and seasonal incidence assessed. He then deals successively with the seasonal incidence and succession of parasites, the role of pregnant and lactating ewes in contaminating pastures, the relation of infection of lambs to that of their mothers, the mode of build-up of parasitic infections, the process of their elimination, the availability of infective larvae throughout the year, the date of lambing and intensity of parasites, and the extent that the epidemiological picture fluctuates in a district in the same season.

R.T.L.

729—Proceedings. Association of Southern Agricultural Workers.

- a. COOPER, W. E., 1950.—“Root knot of peanuts.” [Abstract.] 47th Annual Convention (1950), pp. 177-178.

(729a) [This abstract has already appeared in *Phytopathology*, 1950, 40 (8), 786. For abstract see *Helm. Abs.*, 19, No. 112c.]

730—Proceedings of the Connecticut Vegetable Growers' Association.

- *a. ANDERSON, P. J., 1950.—“Vegetable nematodes.” 38, 41-44.

731—Proceedings of the Florida State Horticultural Society.

- a. BROOKS, A. N. & CHRISTIE, J. R., 1950.—“A nematode attacking strawberry roots” 63, 123-125.
- b. SPENCER, E. L. & JACK, A., 1950.—“Nitrogen transformation in seedbeds as affected by nematocidal treatment.” 63, 125-128.

(731a) In soil samples and in specimens of diseased and of apparently healthy strawberry plants from affected fields, Christie found the sting nematode, *Belonolaimus gracilis*, which had been incorrectly reported as *Pratylenchus pratensis*. Strawberry growers in Florida have found that D-D fumigation has enabled them to grow good crops on land in which this nematode has been destructive to previous strawberry crops but the treatment should not be applied to beds already containing strawberry plants. R.T.L.

(731b) Fumigation for nematicidal treatment, by acting on the nitrifying organisms in the soil, results in low nitrate-nitrogen and high ammoniacal-nitrogen values. This effect varied with the chemical used but most were effective for at least six weeks. Tomato plants can absorb ammoniacal nitrogen during early stages of growth if the pH of the soil is near neutral but on acid soils they might show a nitrogen deficiency even though the total inorganic nitrogen was adequate. The condition could be avoided if dolomitic limestone or a balanced fertilizer were added but the grower is advised to be wary of any cultural practice which involves repeated chemical fumigation of the soil. R.T.L.

732—Proceedings of the Hawaiian Academy of Science.

- a. SCHWABE, C. W., 1950.—“Manson's eyeworm in Hawaii.” [Abstract.] 25th Annual Meeting (1949-50), p. 7.

733—Proceedings of the Hawaiian Entomological Society.

- a. SCHWABE, C. W., 1950.—“Studies on *Oxyspirura mansonii*, the tropical eyeworm of poultry. IV. Methods for control.” Year 1949, 14 (1), 175-183.

(733a) The feasibility is considered of controlling *Oxyspirura mansonii* infection in poultry by (i) mechanical or chemical removal of the adult worms from the eye; (ii) rendering the eyes unsuitable habitats for the parasites and (iii) eradication of the intermediate host. None of the various therapeutic treatments is recommended. Hutson's surgical removal (unpublished) of the nictitating membranes requires further investigation. Proper housing and strict sanitation are recommended as preventive measures. Parathion is the most effective insecticide against the vector but cannot be recommended on account of its extreme toxicity to warm-blooded animals. Weekly dusting with 1% benzene hexachloride or spraying with 1% chlordane and/or 1% D.D.T. in kerosene materially reduced the cockroach population. R.T.L.

734—Proceedings of the Iowa Academy of Science.

- a. PETERSON, O. H. & KERR, K. B., 1950.—“Intranasal Newcastle disease virus vaccination of baby chicks infected with *Ascaridia galli*.” 57, 483-489.

(734a) Peterson & Kerr report that intranasal vaccination with Newcastle disease virus has no unfavourable influence on the “livability” of chickens infected with *Ascaridia galli*. R.T.L.

735—Proceedings of the Japan Academy.

- a. KOBAYASHI, Y. & BANDO, T., 1950.—“Studies on the locomotion of *Ascaris suilla* and *lumbricoides* observed in the glass tube, and the influence of santonin.” 26 (9), 72-77.

(735a) Kobayashi & Bando have studied the locomotion of human and pig *Ascaris* in glass tubes in modified Locke-Ringer's or Bunge's solution (pH 7.0) and in isolated rabbit gut. When santonin (1:5,000) was introduced into the solution the movements

changed from smooth and regular to convulsive curling, and worms removed from the santonin and replaced in the Locke-Ringer's solution were unable to perform their normal movements. The effect on decapitated worms was less striking; the santonin acted more slowly on male worms than on females and the longer the body of the worm the more slowly the reaction took place. A higher concentration of santonin did not produce a more marked effect.

S.W.

736—Proceedings of the Kansas Veterinary Medical Association.

- *a. TURK, R. D., 1950.—"Internal parasites of ruminants." 46, 59-69.

737—Proceedings of the Louisiana Academy of Science.

- a. BENNETT, H. J. & JENKINS, L. L., 1950.—"The longevity of the miracidium of *Cotylophoron cotylophorum*." 13, 5-13.

(737a) Bennett & Jenkins have studied the longevity of the miracidia of *Cotylophoron cotylophorum* in stream water, lake water and Standard Reference water with and without glucose. Eggs were collected from the rumen of cattle at Baton Rouge, Louisiana and cultured in the type of water to which the miracidia were to be transferred on hatching. In natural water the maximum life span was 16 hours, the average 10.4 hours; in Standard Reference water, the maximum was 16 hours, the average 9.9 hours and in Standard Reference water with glucose, the maximum was 29 hours and the average 16 hours. No miracidia died within the first hour.

S.W.

738—Proceedings of the Pennsylvania Academy of Science.

- a. HERBER, E. C., 1950.—"Studies on the biochemistry of cyst envelopes of the fluke, *Notocotylus urbanensis*." 24, 140-142.

(738a) Tests suggest that the cyst envelope of the cercaria of *Notocotylus urbanensis* from *Physa gyrina* is composed of a complex protein containing at least the amino acids tyrosine, phenylalanine, tryptophane and arginine. They are not digested solely by pepsin or trypsin digest and are not composed of collagen or chitin and there is no indication of cystine. The cyst envelope is fibroid and albuminoid in character.

R.T.L.

739—Proceedings of the South Dakota Academy of Science.

- a. McMILLAN, G. L. & LOFTHUS, O. M., 1950.—"A preliminary report on the metacercarial stage of a fluke found in South Dakota fishes." 29, 100-101.

(739a) Small flecks 1 mm. by 0.5 mm. in the flesh of fish, particularly bullheads, in South Dakota are metacercariae of [unidentified] Strigeoidea.

R.T.L.

740—Proceedings and Transactions of the Royal Society of Canada.

- a. FAIRBAIRN, D. & REESAL, M. R., 1950.—"The preparation of bacteria-free helminth parasites." [Abstract.] Ser. 3, 44, 241.
b. GLOCKLIN, V. C. & FAIRBAIRN, D., 1950.—"Observations on the respiratory metabolism of a fowl caecal nematode, *Heterakis gallinae*." [Abstract.] Ser. 3, 44, 241-242.
c. WARDLE, R. A., 1950.—"The evolutionary origins of dibothriid tapeworms." [Abstract.] Ser. 3, 44, 244.

(740a) The elimination of bacteria from all the exposed surfaces and from the intestine of *Ascaris lumbricoides* has been accomplished for the first time, by the application of complex mixtures of selected bacteriostats and bactericides including azochloramide, neutral acriflavine, sulphathiazole, streptomycin and penicillin. The viability of the worm was unimpaired.

R.T.L.

(740b) This authors' abstract states that certain aspects of the metabolism *in vitro* of *Heterakis gallinae* were reported. These included oxygen tensions, carbon dioxide

production, glycogen utilization, aerobic and anaerobic fermentations and the effect of certain respiratory inhibitors. —

R.T.L.

(740c) Wardle is of the opinion that "the dibothriid tapeworms are neotenic, persistent, larval forms of the protocestode stock and that several lines of evolutionary divergence are represented. Caryophyllidea and Spathebothridea came off before suckers or bothridia or even bothria had evolved. Haplobothriidae, Amphicotylidae, Bothriocephalidae and Dibothriocephalidae may be descendants of prototetraphyllidean forms; the four-lobed apical disc of the former two families being a reminiscence of the protobothridia. Segmentation among dibothriid forms represents not a true delayed autonomy but a response to the strains exerted by host gut peristalsis, increasing with body size, and with the increased nutritional demand for absorptive surface. The former apical organ is represented by the cuplike invagination of the proceroid stage and of the adult cyathocephalid. The pseudo-holdfast and its bothria have evolved by exaggeration of mid-superficial grooves."

R.T.L.

741—Progrès Médical.

- a. LABORIT, H. & BOUVET DE LA MAISONNEUVE, 1950.—"Syndrome d'irritation intestinale avec perforation d'origine ascaridienne." 78 (4), 96-97.

742—Przegląd Epidemiologiczny. Warsaw.

- a. KOZAR, Z., 1950.—"Epidemiologia owsicy (enterobiasis) ze specjalnym uwzględnieniem zamkniętych zakładów dziecięcych." 4 (1/4), 50-97. [English & Russian summaries pp. 93-95.]
b. GAUGUSCH, Z., 1950.—"Przyczynę do badań nad odpornością wągra nierogacizny." 4 (1/4), 98-103. [English & Russian summaries p. 103.]

(742a) From observations in a children's home near Gdańsk where 90% of the 161 inmates were infected with *Enterobius vermicularis*, Kozar critically discusses the efficacy of the NIH swab technique. The incidence of Enterobius is rare in infants under one year old. It increases until the age of seven is reached and remains high until the 14th year. Direct personal infection by the fingers is not very frequent. In only 31.2% did the dirt from the children's fingers contain ova, whereas in that from bed sheets the incidence was from 73.4% to 100%. In dust from the rooms at all levels an average of 30.8% was recorded and the largest number of ova were obtained from door handles, water taps, banisters etc. frequently touched by the children. Kozar considers that retrofection occurs only in certain persons in which the infective ova find conditions favourable for hatching in an external medium.

R.T.L.

(742b) *Cysticercus cellulosae* is highly resistant to moderately low temperatures. It is killed only after 53 days at 0°C.-2°C. It is killed below -2°C. but may survive for six days in deep layers of muscle especially if surrounded by fatty tissue. Brine is a most effective lethal agent and kills cysticerci in three days. In decaying meat they may survive 26 days.

R.T.L.

743—Public Health. Johannesburg.

- a. HOGG, E. S., 1950.—"A preliminary study of ova and cysts in Cydna digested sludge." 14 (1), 27-28.
b. ORENSTEIN, A. J., 1950.—"A contribution to the discussion on the hazard of *Ascaris* infection from sewage." 14 (1), 29-30, 32.

(743a) When Cydna digested sludge was sun-dried for three months in a 1½-inch layer, *Ascaris lumbricoides* eggs were destroyed, but in layers 3 inches and 4½ inches thick a few of the eggs remained viable.

R.T.L.

(743b) Experiments near Johannesburg show that there is relatively little risk of infection with *Ascaris lumbricoides* where sewage effluent, or sludge which has been well dried and/or composted is used on lawns, gardens, golf courses etc.

P.M.B.

744—Public Health Reports. Washington.

- a. NOLAN, M. O., 1950.—"Laboratory tests on the rapidity of molluscicidal action of copper sulfate in high concentration." 65 (45), 1481-1485.

(744a) Copper sulphate in concentrations of 20 p.p.m. killed all *Australorbis glabratus*, *Biomphalaria boissyi* and *Bulinus contortus* within 24 hours. *B. contortus* survived one-hour and two-hour contact periods but the majority died within 24 hours following transfer to water. *A. glabratus* and *B. boissyi* were not killed in contact periods of one to five hours and some revived after removal to water. R.T.L.

745—Publicaciones del Instituto de Biología Aplicada. Barcelona.

- a. GADEA, E., 1950.—"Nota sobre un nuevo *Actinolaimus* de Fernando Póo." 7, 77-82. [English summary p. 82.]

(745a) Gadea describes and figures the female of *Actinolaimus pooensis* n.sp. obtained from moss and lichens collected on the island of Fernando Po in the Gulf of Guinea. He compares it with and differentiates it from other species of *Actinolaimus* recorded from Africa. T.G.

746—Publicações Médicas. São Paulo.

- a. BARROS, J. DE R., 1950.—"Da esquistossomíase de Manson e Pirajá da Silva. Esboço histórico, sintomas, diagnóstico e tratamento." 20 (176), 3-17.

747—Publications. Tobacco Research Board, Southern Rhodesia.

- a. DAULTON, R. A. C., 1950.—"Soil pests. A. Root knot nematode." No. 12 [Annual Report of the Trelawney Tobacco Research Station for 1949], pp. 45-52.

(747a) (i) Daulton has used D-D mixture in tobacco lands infested with *Heterodera marioni*, injecting 4, 6, 8, 10 and 12 c.c. into the hills on which the tobacco is transplanted. Owing to non-uniform infestation the results were inconclusive but D-D imparted vigour to the plants. (ii) The same lack of uniformity vitiated the results of a test of resistance to root-knot by two tobacco varieties compared with Bonanza. (iii) In two seed-beds, tests of D-D at 0, 2, 4, 6 and 8 c.c. per sq. ft. with 5-fold replication, injected 9 in. deep at points one foot apart, showed kills proportional to dosage, with no root-knot visible at 8 c.c. (iv) Daulton tested D-D also by the buried bag technique; bags of chopped infested roots mixed with infested soil in the ratio 3:1 were buried 6, 9, 15, 21 and 24 in. deep, laterally displaced from the injection point 3, 6, 9, 12, 18 and 24 in. Injections of 4, 6, 8, 10 and 12 c.c. showed 8 c.c. best, the zone of complete kill extending laterally for 9 in. except at 24 in. deep. (v) Preliminary tests show that cotton may prove a useful trap-crop. B.G.P.

748—Puerto Rico Journal of Public Health and Tropical Medicine.

- a. BIAGGI, N., 1950.—"The fight against schistosomiasis." 26 (2), 101-109. [Also in Spanish pp. 110-120.]
b. OLIVER GONZÁLEZ, J., RIVERA ANAYA, J. D. & MARTÍNEZ DE JESÚS, J., 1950.—"Intradermal reactions in cattle to antigen prepared from *Fasciola hepatica*." 26 (2), 121-124. [Also in Spanish pp. 125-128.]

(748a) Sodium pentachlorophenate, the most effective of eleven molluscicides tested against *Australorbis glabratus* in the laboratory in concentrations of 10 and 3 p.p.m., was used in a section of the Sabana Llana brook at Río Piedras in Puerto Rico. A concentration of 9.5 p.p.m. killed all snails and their embryonated eggs for a distance of $1\frac{1}{2}$ miles downstream. This chemical and copper pentachlorophenate are sufficiently cheap to permit of their use under the conditions existing in many parts of Puerto Rico. R.T.L.

(748b) When injected into the vaginal or caudal folds in cattle, the reactions from an antigen prepared from pulverized adult *Fasciola hepatica*, diluted to 1:500 in 0.85% physiological saline, suggest that the test may be of use in diagnosing *F. hepatica* infections. Thirty minutes after injecting 1 c.c. into 30 cows which had *F. hepatica* eggs in their faeces, there was an indurated wheal varying in size from 15 × 10 mm. to 20 × 15 mm., with a red papule in the centre which rapidly became darker in colour; the reaction faded gradually after 30 minutes. In 10 cattle which showed no eggs in the faeces the wheals were smaller, less indurated and with no red papule. It is pointed out, however, that such reactions could also result from infections with other trematodes.

P.M.B.

749—Radiologia Clinica. Basle.

- a. KOROSSY, A., 1950.—“Ein Fall von Rippen-Echinokokkus.” 19 (1), 13-17. [English & French summaries p. 17.]

750—Rassegna Internazionale di Clinica e Terapia.

- a. VICENTIIIS, A. DE, 1950.—“Cisti d'echinococco primitiva del legamento largo.” 30 (1), 9-13.
- b. DORIGO, A., 1950.—“Su un caso di cisti d'echinococco intradiaframmatica.” 30 (20), 571-577.
- c. CORTESI, R., 1950.—“Ciste da echinococco primitivo del muscolo sterno-cleido-mastoideo.” 30 (21), 606-610.

751—Records of the Indian Museum.

- a. DAS, E. N., 1950.—“On a new species of *Apororhynchus* from the white scavenger vulture *Neophron percnopterus* (Linn.) from India.” 48 (3/4), 43-50.
- b. CHAUHAN, B. S., 1950.—“Trematodes from Indian marine fishes. Part VI. Monogenetic parasites of the family Mazocraeidae (Diclidophoroidea): description of a new species of the genus *Mazocraes* Hermann, 1782.” 48 (3/4), 51-53.

(751a) *Apororhynchus bivolucrus* n.sp., collected from the intestine of a white scavenger vulture (*Neophron percnopterus*), differs from the two known species of the genus in its small size, its length measuring only 1.4 mm. There is no collar between the proboscis and trunk. The proboscis is divided from the body by a deep constriction and its rim has deep clefts. The lemnisci are fibrous. The ovary gives rise to eggs not to egg masses. There is a vaginal gland. The uterus is greatly elongated and the muscles are horseshoe-shaped. A plate with 4 figures illustrates the paper.

R.T.L.

(751b) *Mazocraes orientalis* n.sp. from the gills of a clupeid fish, *Dussumieria* sp., collected at Puri is described and figured. It is broadly distinguished from known species by the pattern of the framework of the clamps on the haptor, the shape and arrangement of the genital hooks, the number of terminal hooks on the posterior lappet of the haptor and the structure of the lappet.

R.T.L.

752—Refuah Veterinarith. Jerusalem.

- a. GERICHTER, C. B., 1950.—[Studies on the lung nematodes of sheep and goats in Israel.] 7 (2), 41-54. [In Hebrew : English summary p. 84.]

(752a) In Israel, five species of lungworms are present in sheep and goats, viz., *Dictyocaulus filaria* and *Cystocaulus ocreatus* which are the commonest, *Muellerius capillaris*, *Protostrongylus rufescens* and, very rarely, *Neostrongylus linearis*. The posterior extremities of the first-stage larva of each species are figured and a key for their differentiation is provided. Near Jerusalem 17.2% of *Helicella barbesiana* were naturally infected with the larvae of *C. ocreatus*, *M. capillaris* and *P. rufescens* and these species were successfully transmitted

to the definitive hosts. The larval stages of *D. filaria* are described. There are eight figures of larvae in the text.

R.T.L.

753—Report of the Chief Veterinary Officer, Cyprus.

- a. ROE, R. J., 1950.—"Disease control." Year 1950, pp. 2-4.

(753a) Roe reports that in Cyprus parasitic gastro-enteritis was less prevalent than in previous years and attributes this to the extended use of phenothiazine as a prophylactic and as a curative agent. Fascioliasis in sheep still occurred in well defined areas; this was treated by intra-ruminal injections of carbon tetrachloride. Preliminary trials on the use of copper sulphate as a molluscicide have been carried out. Among the chief causes of condemnation in the abattoirs were *Cysticercus cellulosae*, *C. bovis*, *Fasciola hepatica* and hydatid cysts.

S.W.

754—Report of the Commonwealth Scientific and Industrial Research Organization, Australia.

- a. AUSTRALIA, COMMONWEALTH SCIENTIFIC & INDUSTRIAL RESEARCH ORGANIZATION, 1950.—"III. Plants: vegetables. V. Animal health and production. VII. Sheep: internal parasites. VIII. Cattle: internal parasites." 2nd (1949-50), pp. 29-30; 36-39; 48-50; 53-55.

(754a) In Australia, *Heterodera marioni* causes considerable losses in tomato crops in hot areas with sandy soils. Preliminary observations confirmed that a line of tomato received from the Hawaiian Experiment Station is resistant to root-knot infection. Field experiments show that the disease can be controlled by fumigation but the method is very expensive. Phenothiazine proved less effective against *Chabertia ovina* than against *Oesophagostomum columbianum* but 20 gm. injected into the rumen of sheep removed 66% to 97% of *C. ovina*. The anthelmintic efficiency of phenothiazine tablets was affected by the formulation and method of manufacture; when the disrupted fragments within the rumen ranged up to 1 mm. in diameter, the efficiency was low. Sixteen grammes were more effective against *Ostertagia* spp. and *Trichostrongylus axei* than against intestinal trichostrongyles. When the dose was doubled the effect on the abomasum worms was not increased but a much larger proportion of the intestinal forms was destroyed. When great numbers of worms are present, a residue large enough to prevent recovery may remain after the usual dosing. Toxic effects from hexachlorethane responded to calcium therapy. The report contains accounts of: studies on sheep resistance to nematode infection; epidemiological investigations; the relation of different types of winter feeding to worm burden; the mode of action of phenothiazine and the uptake of phosphates by host tissues and nematodes; the epidemiology of parasitic gastro-enteritis in cattle and the value of egg counts of the different species in cattle as indicative of their pathogenicity; the paramphistomes of cattle, it now appearing that *P. cervi* and *P. explanatum* do not occur in Australia; the absorption of glucose used as an indicator of the value of various substances in stimulating the closure of the oesophageal groove in cattle; the uselessness of phenothiazine administered by flank puncture against *Bunostomum*, *Cooperia*, *Ostertagia* and probably *Trichostrongylus*. Phenothiazine appeared to be of use in cattle mainly against *Haemonchus* and *Bosicola*. Splendid results were obtained in beef calves seriously infected with *Haemonchus* and *Bosicola* by an oral dose of 1 oz. for a 12-month-old animal. Hexachlorethane was highly effective against *Haemonchus* when 20 gm. were given in a suspension but it had no effect on *Trichostrongylus*, *Cooperia*, *Bunostomum* or *Bosicola*. The common species of paramphistomes are *Calicophoron calicophorum* for which *Glyptaniscus gilberti* is the intermediary, and *Cotylophoron cotylophorum* which develops in *Segnitila alphenae*. The areas in which these are most prevalent are the coastal and subcoastal areas of Queensland and New South Wales. Severe outbreaks of paramphistomiasis in sheep are reported from Guyra and the Casino district of New South Wales.

R.T.L.

755—Report of the Department of Agriculture, Fiji.

- a. OHMAN, A. F. S., 1950.—"Report of the Senior Veterinary Officer, 1950." Year 1950, pp. 15-20.

(755a) Helminth parasites are important limiting factors to livestock production in the Fiji Islands and continue to take heavy toll of all classes of stock, particularly young calves and goats. Horses are commonly affected. *Stephanurus dentatus* and ascarids are some of the main difficulties in the pig industry. Verminous bronchitis is common in calves. Paucity of staff has caused postponement of the proposed survey of the incidence of worm parasites in the Colony.

R.T.L.

756—Report of the Department of Agriculture, Jamaica.

- a. ANON., 1950.—"(1) Work of the Department of Agriculture : (iv) Control of pests and diseases (2) Report on the Veterinary and Livestock Divisions : A. Disease control." Year 1949-50, pp. 7-8, 10-11.

(756a) *Heterodera marioni* is becoming a problem in Jamaica, doing much damage to the Irish potato crop in Northern Manchester. Growers' attention has been called to the importance of field sanitation and judicious crop rotation. Helminths accounted for considerable losses among ruminants. Phenothiazine was not highly effective, especially in goats.

R.T.L.

757—Report of the Department of Science and Agriculture, Barbados.

- a. PROVERBS, M. B., 1950.—"Animal health. (6) Parasitism." Year 1949-50, p. 55.

(757a) Proverbs, reporting on animal health in Barbados, states that all classes of livestock there suffer from parasitism to a greater or less extent and that the standard of nutrition, especially in early life, often determines if the animal is destined to survive. Phenothiazine in treatment and control in combination with grazing management has proved very effective but the cheaper combination of copper sulphate and nicotine sulphate is being tested in sheep with heavy infections of *Haemonchus contortus*.

R.T.L.

758—Report. East Africa Medical Survey.

- a. ANON., 1950.—"Director's report." No. 2 (1950), 41 pp.

(758a) To this report Trant contributes an account of his work in Ukara, an island in Lake Victoria. Eighty-one out of 307 persons had nocturnal microfilariae in their blood; 1% of the whole population had elephantiasis. Of 91 faecal specimens examined, 46 showed *Schistosoma mansoni* eggs, 37 had *Ascaris* ova, 25 had hookworm ova, 29 had *Trichuris* ova and in 17 there were *Strongyloides stercoralis* embryos. One out of 18 samples of urine contained *S. haematobium* eggs. Three cases of tapeworm were observed but not identified. The occurrence of *Ascaris* ova in the nasal mucus of schoolchildren is attributed to nose picking. The report from the Mwanza Hospital laboratory states that the overall incidence of *Microfilaria bancrofti* was 11%, but in patients from around Mwanza, it was over 20%. The incidence of hookworm in 486 patients was 43%. No relationship was statistically established between worm burden and haemoglobin level. A field survey of urinary schistosomiasis in the Ngudu area gave an incidence of 35% in the 179 males examined and 29% in the 121 females examined.

R.T.L.

759—Report. East African Veterinary Research Organization.

- a. ANON., 1950.—"Helminthiasis research." Year 1950, pp. 21-28.

(759a) Dinnik & Dinnik have continued their work on the helminths of domestic ruminants in Kenya. *Paramphistomum cervi* and an undetermined species of *Paramphistomum* were found to be very common in cattle, sheep and goats; *Cotylophoron cotylophorum* occurred less frequently and *P. explanatum*, *Carmyerius* sp. (probably *C. synthes*) and

C. exoporus were only found occasionally. Attempts to infect *Biomphalaria pfeifferi*, *Bulinus alluaudi*, *B. syngenes* and *Limnaea caillaudi* with miracidia of *P. explanatum* were unsuccessful. [An account of the life-history of *P. cervi* in Kenya has already appeared; for abstract see Helm. Abs., 20, No. 20a.] *B. alluaudi* and *B. syngenes* became infected with the *Caromyerius* sp. *Schistosoma bovis* was found in 56 of the 242 cattle examined. Experiments have been carried out on the time taken for the development of infective larvae of *Haemonchus contortus* and on their longevity. Both have been studied throughout the year under natural conditions in different areas, and under conditions of shade, partial shade and full sun, in long and short grass. The results are tabulated. S.W.

760—Report. Filariasis Research Unit, East Africa.

- a. LAURIE, W., 1950.—“Director’s report.” No. 1 (1949), 32 pp.
- b. LAURIE, W., 1950.—“Director’s report.” No. 2 (1950), 61 pp.

(760b) *Acanthocheilonema perstans*, *Onchocerca volvulus* and *Wuchereria bancrofti* are each present in greater or less degree in Kenya, Tanganyika and Uganda. The results so far obtained suggest that filariasis is a serious problem only in very few areas in Tanganyika. The incidence of serious late complications of bancroftian disease, such as elephantiasis, apparently bears a close relationship to the intensity of individual infections and not necessarily to the incidence of people showing microfilariae in the blood. In a survey in the Kyela area of Tukuyu district of Tanganyika, Trant found 33% of the population infected with filariasis and over 600 (1%) had elephantiasis. Work on hetrazan confirms the conclusion that very short heavy dosage courses of treatment give results comparable with those obtained by long continued light dosage courses. The administration of 12 mg. per kg. body-weight has an immediate and permanent effect on the microfilariae of *W. bancrofti* in the blood. Some evidence was obtained that hetrazan may prove of value in elephantiasis scroti and filarial hydrocoele. It did not reduce the number of *Microfilaria perstans*. Protostib appeared to sterilize or kill the adult *W. bancrofti* in two out of four patients kept under observation for more than eight weeks. Although *M. perstans* does not show any periodicity, the microfilaria level in the blood varies markedly from hour to hour and from day to day. In Section IV of the report Sewell briefly describes localities in which microfilariae were present in 14 wild mammalian species. In 30 out of 75 *Rhynchotragus kirkii*, at Shinyanga, adult setarine filarial worms were found in the peritoneal cavity and microfilariae in the blood. In Section V, Smith reports the finding of microfilariae, but no developmental stages, in six out of 187 *Culex fatigans*, one out of 36 *Anopheles gambiae* and one out of 16 *Taeniorhynchus africanus*. The mosquitoes were collected on Ukara in Lake Victoria. R.T.L.

761—Report of the Florida Agricultural Experiment Stations.

- a. BRATLEY, H. E., 1950.—“Effects of mulches on the root-knot nematode.” Year 1949-50, pp. 66-67.
- b. BRATLEY, H. E., 1950.—“Effects of annually repeated soil treatments of D-D for controlling nematodes on gladiolus.” Year 1949-50, p. 69.
- c. BATTE, E. G. & SWANSON, L. E., 1950.—“Control of the common liver fluke in cattle.” Year 1949-50, pp. 105-106.
- d. SWANSON, L. E., 1950.—“Control of internal parasites of cattle.” Year 1949-50, pp. 107-108.
- e. ANON., 1950.—“Strawberry Investigations Laboratory. Root decline.” Year 1949-50, p. 119.
- f. KELSHEIMER, E. G., SPENCER, E. L. & WALTER, J. M., 1950.—“Control of nematodes injurious to vegetable crops.” Year 1949-50, pp. 131-132.
- g. CHRISTIE, J. R., PERRY, V. G. & WILSON, J. W., 1950.—“Control of nematodes injurious to vegetable crops.” Year 1949-50, pp. 144-145.
- h. CONOVER, R. A. & WOLFENBARGER, D. O., 1950.—“Studies on the control of the root-knot nematode on marl soils.” Year 1949-50, pp. 249, 248.

(761a) The growth of both crops and weeds was better on plots heavily mulched for three successive years with dry forest leaves than on those mulched with miscellaneous plant material; on check plots growth was poorer. Winter peas gave an average yield of

1,090 lb. per acre on the forest leaf plots, 477 lb. per acre on the miscellaneous material plots and 852 lb. per acre on the checks. The yields from the tomato crop which followed were respectively 10,075 lb. per acre, 6,150 lb. per acre and 3,975 lb. per acre. The root-knot infestation on the tomatoes was heaviest on the plots mulched with forest leaves and lowest on the plots mulched with miscellaneous plant material indicating that mulching was ineffective as a control measure.

M.T.F.

(761b) Renewed injection of plots previously treated with D-D mixture gave Bratley only small treatment effects owing to the disturbing action of heavy rain. On 12 new plots, some injected with D-D (5 c.c. at 1 ft. intervals) gave 12% more eelworm-free gladiolus corms than the controls but there were no significant yield differences.

B.G.P.

(761c) In Florida where *Pseudosuccinea columella* and *Fossaria cubensis* are the intermediate hosts of *Fasciola hepatica*, they occurred in greatest abundance in water with a pH of 7.5 to 8.5. Cypress ponds and water flowing over sand or muck is not suitable for their growth. In experimental ditches live snails were found four inches below the surface but the majority were present in the upper $\frac{1}{4}$ -inch beneath alluvial deposits. Other experiments indicated that snail eradication by drainage would be difficult, as they revived even 14 to 16 days after the soil had become powdery dry.

R.T.L.

(761d) The 24 species of helminths collected at post-mortem examinations on cattle in Florida are listed. Calves naturally infected with *Dictyocaulus viviparus* became free in about 180 days when kept on concrete floors. Phenothiazine, by removing intestinal worms, assists the animal to withstand the drastic effects of lungworm infection. Artificial infections persisted for about 30 days and repeated attempts to infect them again failed. Although hexachlorethane at the dose rate of 10 gm. per 100 lb. body-weight removed all *Fasciola hepatica* from the bile ducts of cattle, it was ineffective against immature worms in the liver. Infected herds should be treated at six-monthly intervals supplemented by molluscan control measures.

R.T.L.

(761e) Root decline of strawberries in Florida had previously been attributed to *Pratylenchus pratensis* but it now appears that *Belonolaimus gracilis* Steiner is responsible. Large numbers were found associated with roots of affected plants and some with healthy plants but none in fields displaying no disease symptoms. *B. gracilis* is most numerous in December; in June it was found round roots of maize and crabgrass but not of eggplant in fields where it had been plentiful on previously grown strawberries. *B. gracilis* is mostly ectoparasitic and feeds in a browsing manner. Small roots are killed and larger ones may suffer varying damage to the cortex. Infested plants can be cleaned by washing the roots and replanting in nematode-free soil.

J.B.G.

(761f) Kelsheimer *et al.* have started an experiment on a fine sandy soil infested with root-knot to investigate the effects of (i) four fumigants: MC-2 [methyl bromide], 20% ethylene dibromide, D-D mixture and "Buchlor" [? dichlorobutylene]; (ii) soil pH at 4.7 versus 6.2; (iii) 1, 3, 6 and 10 daily waterings each equivalent to $\frac{1}{2}$ in. rain; (iv) varying delays between injection and planting. In the first season: (i) all chemicals partially controlled root-knot with D-D best and MC-2 worst; (ii) medium pH was better than low; (iii) watering for 10 days depressed yields; (iv) necessary delay times were longest (30-34 days) for ethylene dibromide and "Buchlor", and shortest (5-6 days) for MC-2.

B.G.P.

(761g) *Trichodorus primitivus* is responsible for "red root" of celery and stubby root of sweet corn where it feeds on the root tips. Most of the eelworms are found between 4-8 inches deep but some down to 12 inches. It attacks most of the vegetable crops in Florida. It spreads more rapidly in the soil and is more easily killed chemically and by drying than other eelworms. In fumigation tests, ethylene dibromide was found to be effective in checking the pest but it also stunted plants more than methyl bromide. The injurious results followed from planting only one week after fumigation.

J.B.G.

(761h) Conover & Wolfenbarger, seeking to control root-knot on potatoes in marl soils, found that methyl bromide gave increased yields and reduced root-knot, whereas D-D mixture, ethylene dibromide and calcium cyanamide did not. Pulling out the weed reservoir *Colocasia esculenta* was less efficacious than applying weed killer. Digging the soil in June had an unexplained good effect. In another experiment D-D at rates up to 1,600 lb. per acre had no effect on root-knot (93% of tubers affected on all plots) or on yield. B.G.P.

762—Reports on the Progress of Applied Chemistry.

- a. PETERS, B. G., 1950.—“Control of plant nematodes.” 35, 662–665.

(762a) Peters summarizes succinctly the literature published by various authors in 1948–1950 on nematicides, methyl bromide fumigation, hot-water treatment and potato root diffusate. R.T.L.

763—Report of the Rothamsted Experimental Station.

- a. GOODEY, T., 1950.—“Nematology Department.” Year 1950, pp. 82–89.
b. PETERS, B. G., 1950.—“Review of work on potato root eelworm.” Year 1950, pp. 147–156.

(763a) This is a brief summary of the work carried out in the Nematology Department during 1950. The work concerned problems connected with species of Heteroderidae, mostly *H. rostochiensis* and *H. marioni*, with various species of the Tylenchidae including *Ditylenchus dipsaci* and *D. destructor* and with species of Aphelenchidae, namely, *A. fragariae*, *A. ritzema-bosi*, *A. ribes* and *A. parietinus*. The work included studies on the biological aspects of the eelworms and also on nematicides with a view to controlling the parasites. J.B.G.

(763b) Peters reviews the earlier work on *Heterodera rostochiensis* by the staff of the Institute of Agricultural Parasitology at St. Albans and the subsequent work of those members of the staff who were appointed to the newly formed Nematology Department at Rothamsted in 1947. Of the papers discussed, 45 appeared in the *Journal of Helminthology*, one in *Annals of Applied Biology*, two in the *Biochemical Journal* and two in the *Agricultural Research Council Report*. R.T.L.

764—Report of the Veterinary Department, Nigeria.

- a. ANON., 1950.—“Disease control.” Year 1949–50, pp. 7–8.

(764a) In his general review the Director of Veterinary Services, Nigeria, remarks that “the wholly uninvestigated field of diseases of sheep, goats and poultry, which species together exceed the economic value of cattle in this territory, cannot be left much longer virtually unprobed” and that the economic development of the livestock industry cannot be allowed to be undermined by the heavy incidence of “measles”. R.T.L.

765—Research Bulletin of the East Panjab University, Hoshiarpur.

- a. GUPTA, N. K., 1950.—“Anatomy of *Paramphistomum (Cauliorchis) crassum*.” No. 8 (Zoology), pp. 91–101.

(765a) Gupta describes the anatomy of *Paramphistomum (Cauliorchis) crassum* and the techniques used for the demonstration of the various systems. He gives 21 figures and a detailed account of the structure of the body-wall, the muscles and the parenchyma; he describes the arrangement of the muscle layers in the suckers and the form and arrangement of the excretory, digestive, lymphatic and reproductive systems. Gupta is of the opinion that *P. (Cauliorchis) crassum* is a valid species and not a synonym of *P. explanatum*. S.W.

766—Research and Farming. North Carolina Agricultural Experiment Station.

- a. GRINNELLS, C. D., 1950.—“Parasites and pasture.” [Progress Report of the North Carolina Agricultural Experiment Station], 9 (1), 38-39.

(766a) To avoid losses of livestock from internal parasites Grinnells gives the following advice: (i) do not graze young calves; (ii) do not overstock pastures; (iii) maintain a high level of nutrition; (iv) adopt pasture rotation. In North Carolina faecal samples from 508 dairy cattle in 23 herds and 173 beef cattle in six herds showed that 97% of the calves between six and twelve months old and 93% of animals from six to twenty-four months old were infected with intestinal helminths, whereas all the cattle of five years and older were free from infection.

R.T.L.

767—Revista de Agricultura. São Paulo.

- a. BOOCK, O. J., 1950.—“O ‘Dowfume W-10’ no combate aos nematóides que parasitam as plantas de soja.” 25 (9/10), 297-304.

(767a) Boock has had excellent results in controlling *Heterodera marioni* on potatoes and the soya bean “Max Piper” by injecting ethylene dibromide (10% by volume) with a hand injector at the rate of 30 gal. per acre. Injections were 12 to 15 cm. deep and both 20 cm. and 40 cm. apart, applied 12, 20 and 28 days before sowing. Plants on treated plots grew better and remained green longer than those on the controls and produced four times the yield. The proportion of roots infested was reduced from 99% to less than 10% at the 20 cm. spacing, and there was no harmful effect on root-nodule bacteria.

B.G.P.

768—Revista Agronómica. Porto Alegre.

- *a. CORRÊA, O., 1950.—[Physalopteriasis of the dog and cat; *Physaloptera praeputialis* von Linstow, 1889.] 14 (157/159), 2, 25. [In Portuguese.]
 *b. CORRÊA, O., 1950.—[Toxocariasis of the dog.] 14 (157/159), 3-4. [In Portuguese.]

769—Revista Argentina de Urología.

- *a. TITTAMANTI LESCANO, O. A., 1950.—“Quiste hidatídico de riñón, quistectomia con resección renal.” 19 (1/6), 66-69.

770—Revista de Biología Marina. Valparaiso.

- a. YAÑEZ A., P., 1950.—“Observación de un *Dibothriohynchus*, parásito del azulejo” 2 (2/3), 165-166.

(770a) Plerocercoids of *Dibothriohynchus grossum* are recorded from *Prionace glauca* caught at Caleta Cochoa, Chile.

P.M.B.

771—Revista Brasileira de Cirurgia.

- a. OLIVEIRA, J. DE, 1950.—“Esquistosomose retal.” 20 (3), 933-964.
 b. MELLO, W. G. DE, 1950.—“Do valor da biópsia retal na esquistosomose mansoni.” [Editorial.] 20 (6), 1189-1190.

772—Revista Brasileira de Malariologia.

- a. LUCENA, D. T., 1950.—“Introdução no país de duas espécies africanas de caramujos transmissores de schistosomose: *Bulinus tropicus* (Krauss) e *Biomphalaria alexandrina pfeifferi* (Krauss). Nota preliminar.” 2 (3), 278.

(772a) Lucena reports the occurrence of *Biomphalaria alexandrina pfeifferi* and *Bulinus tropicus*, the African intermediate hosts of *Schistosoma haematobium*, in the State of São Paulo.

R.T.L.

773—Revista Brasileira de Medicina.

- a. VASCONCELLOS, D. & FERREIRA LIMA, J., 1950.—“ Tratamento da esquistosomose.” 7 (5), 310-317.
- b. CASTRO, E. L., 1950.—“ A infestação por ascárides.” 7 (7), 488-489.

774—Revista Chilena de Higiene y Medicina Preventiva.

- a. NEGHME R., A. & SILVA C., R., 1950.—“ Nuevos estudios epidemiológicos de la amebiasis y otras enteroparasitosis en Chile. III. Comunicación.” 12 (3/4), 87-94. [English summary pp. 93-94.]

(774a) Examination of faeces from 4,410 individuals in rural areas of Chile, between the latitudes of 18°S. and 43°S., showed that the incidence of *Ascaris lumbricoides* varied from 2%-3% in the warm, dry north to 6%-51% in the central zone and 62.5% in the colder, wetter south. Corresponding figures for *Trichuris trichiura* were 10%-30% in the north, 9%-67% in the centre and 16%-75% in the south. *Hymenolepis nana* occurred in 5%-11% in the north, 5%-21% in the central zone and 2%-11% in the south. *Taenia saginata* and *T. solium* were common, especially the former. Twelve cases with *Diphyllobothrium latum* were found near Lake Cólico in the province of Cautín. Statistics of the incidence of *A. lumbricoides*, *Trichuris trichiura* and *H. nana* for the various provinces are tabulated.

P.M.B.

775—Revista Clínica Española.

- a. VARA LÓPEZ, R. & INCLÁN BOLADO, J. L., 1950.—“ Quistes hidatídicos de riñón. Comentarios a cuatro casos.” 37 (5), 316-324. [English, French & German summaries p. 324.]
- b. PUIG-SUREDA, J., TORRA HUBERTÍ, A. & SALLERAS, V., 1950.—“ Dos quistes hidatídicos del riñón.” 38 (2), 126-130.
- c. SONZINI ASTUDILLO, C. P., 1950.—“ Lobectomía por quiste hidatídico supurado en una embarazada.” 38 (4), 308-312.
- d. GARCÍA BARÓN, A., 1950.—“ Un caso de extracción operatoria del colédoco de fasciolas hepáticas.” 38 (4), 312.
- e. GARCÍA BARÓN, A., 1950.—“ Aportación a la casuística de la ascariidiosis de las vías biliares.” 38 (5), 375-376.
- f. GARCÍA BARÓN, A., 1950.—“ Sobre la rotura del quiste hidatídico de hígado en las vías biliares.” 38 (6), 436-438.
- g. PARRA & LOSADA, 1950.—“ Quiste hidatídico de pulmón.” 39 (3), 212. [Discussion pp. 212-213.]
- h. CALVO MELENDRO, J., 1950.—“ La equinococosis familiar.” 39 (4), 275-278.

776—Revista de Doenças Tropicais e Infetuosas. Rio de Janeiro.

- a. COUTINHO, J. O., 1950.—“ Diagnóstico da esquistossomose pela intradermo-reação com antígenos de esquistossomas adultos.” 2, 13-19.

(776a) A method of preparing antigen for the diagnosis of schistosomiasis from adult worms reared in experimentally infected animals is described. After repeated washing in 0.7% sodium chloride and distilled water, the worms are dried *in vacuo*, powdered and suspended in sodium chloride, sodium carbonate and merthiolate, then centrifuged and filtered. It keeps its potency for over a year at 6°C. An injection of 0.005-0.02 c.c. produces in one to five minutes an itching papule which increases its intensity in about 10 to 15 minutes and then fades. 99% of 100 patients with eggs of *Schistosoma mansoni* in their faeces and 21 clinical cases without exception reacted whereas 39 out of 40 persons from uninfected areas were negative.

R.T.L.

777—Revista Española de las Enfermedades del Aparato Digestivo y de la Nutrición.

- a. SOLDEVILLA, V., 1950.—“ Quiste hidatídico de vesícula biliar simulando un carcinoma.” 9 (4), 484-488.
- b. BERGARECHE, J., 1950.—“ Tres notas sobre hidatidosis hepática.” 9 (6), 717-729.

778—Revista Española de Oto-Neuro-Oftalmología y Neurocirugía.

- a. MARQUES, V. & FERREIRA, M., 1950.—“Dois casos de quisto hidático da coluna vertebral e um do crâneo e órbita.” 9 (48), 90-93.

779—Revista Española de Pediatría.

- a. GALDÓ, A., 1950.—“La ascariidiosis en pediatría.” 6 (6), 763-780.

780—Revista de la Facultad de Medicina Veterinaria. Lima.

- a. ARNAO MENDOZA, M., 1950.—“*Physocephalus sexalatus* en el cerdo.” 5 (14), 191-201. [English summary p. 195.]
b. GONZÁLES-MUGABURU, L. & PARRA O., B., 1950.—“*Ancylostoma caninum* en perros de la zona alta del Valle del Rimac.” 5 (14), 202-204. [English summary p. 204.]

(780a) *Physocephalus sexalatus* var. *cristatus* from the pig is described and recorded from Peru for the first time. It is noted that this variety, hitherto known as a parasite of the dromedary, has not previously been observed in this host. A table contrasts the geographical distribution, hosts, habitats and chief measurements of *P. sexalatus* and *P. sexalatus* var. *cristatus* reported by earlier workers. R.T.L.

(780b) *Ancylostoma caninum* is reported from a dog in the Rímac Valley at an altitude of 3,000-4,000 ft. R.T.L.

781—Revista Grancolombiana de Zootecnia, Higiene y Medicina Veterinaria. Caracas.

- a. FRITZSCHE, K., 1950.—“Nuevas medicaciones antiparasitarias en los animales domésticos.” 4 (4/6), 302-314.
b. ROTH, H., 1950.—“Nuevas experiencias sobre la triquinosis con especiales consideraciones sobre su existencia en las regiones árticas.” 4 (4/6), 352-375.
c. KINGSCOTE, A. A., 1950.—“La triquinosis en la región ártica boreal.” 4 (4/6), 376-378.
d. TRAWIŃSKI, A., 1950.—“Triquinosis.” 4 (4/6), 379-384.

(781a) [This paper is published also in French in *Bull. Off. int. Épizoot.*, 1950, **34**, 143-156, and in German in *Tierärztl. Umsch.*, 1950, **5** (13/14), 251-255. For abstract see No. 543b above.]

(781b) [This paper is published also in French in *Bull. Off. int. Épizoot.*, 1950, **34**, 197-220. For abstract see No. 543c above.]

(781c) [This paper is published also in French in *Bull. Off. int. Épizoot.*, 1950, **34**, 221-222. For abstract see No. 543d above.]

(781d) [This paper is published also in French in *Bull. Off. int. Épizoot.*, 1950, **34**, 223-228. For abstract see No. 543e above.]

782—Revista del Instituto Nacional de Biología Animal. Lima.

- a. ARNAO MENDOZA, M., 1950.—“*Dictyocaulus filaria* en Ovis (*Ovis aries*. Carnero.” 1 (1), 35-38.

(782a) A nematode present in sheep in Peru which was formerly known locally as “*Strongylus pulmonar*” is now described and identified as *Dictyocaulus filaria*. P.M.B.

783—Revista del Instituto de Salubridad y Enfermedades Tropicales. Mexico.

- a. GONZÁLEZ BARRANCO, D., 1950.—“Estudio experimental sobre la acción de la luz en las microfilarias de *Onchocerca volvulus*.” 11 (2/4), 133-136. [English summary p. 136.]

(783a) In a series of experiments, González Barranco was unable to prove that a positive phototropism is exhibited by microfilariae of *Onchocerca volvulus*. P.M.B.

784—Revista Médica de Chile.

- a. FANTA, E., FAIGUENBAUM, J. & NEGhme, A., 1950.—"Sobre tratamiento biológico de la hidatidosis." 78 (12), 796-798.

(784a) A marked improvement in the symptoms and general condition of 20 patients with hydatid disease was observed after biological treatment with various hydatid antigens injected intradermally. This treatment is recommended for inoperable cases, especially where there are multiple abdominal or thoracic cysts, or for osseous hydatidosis and also for pre- and post-operative use. P.M.B.

785—Revista Médica Hondureña.

- *a. HOEKENG, M. T., 1950.—"La atebrina en el tratamiento de la teniasis." 19 (150), 206-208.

786—Revista Médica Peruana.

- a. NAVARRETE, E. & REYES NUÑEZ, V., 1950.—"Quiste hidatídico retrovesical abierto a la vejiga." 21 (255), 132-134.

787—Revista Médica de Valparaíso.

- a. ZAMORANO, G., REED, E., BORQUEZ, H. & LERMAN, V., 1950.—"Estudio clínico-radiológico y tratamiento quirúrgico del quiste hidatídico pulmonar." 3 (1), 8-16.

788—Revista Médica Veracruzana.

- a. RODRIGUEZ PAVÓN, A., 1950.—"Parasitosis intestinal en niños menores de tres años. Su terapéutica." 30 (11), 2133-2141.

789—Revista de Medicina e Cirurgia de São Paulo.

- a. FERREIRA, J. M. & MEIRA, J. A., 1950.—"Triade de Kartagener' em paciente com esquistossomíase mansoni e moléstia de Chagas." 10 (9), 435-458. [English summary pp. 457-458.]

790—Revista de Medicina Veterinaria y Parasitología. Caracas.

- a. CABALLERO y C., E. & VOGELSANG, E. G., 1950.—"Fauna helmintológica venezolana. III. Algunos nematodos de animales silvestres." 9 (1/4), 55-67.
 b. CHAVARRÍA Ch., M., 1950.—"Fasciola hepática, anomalías en el aparato reproductor femenino." 9 (1/4), 69-83.
 c. GOLDMAN, C. & ESPÍN, J., 1950.—"Filariasis en mono (*Cebus apella*)." 9 (1/4), 97-104.
 d. VOGELSANG, E. G., 1950.—"Contribución al estudio de la parasitología animal en Venezuela. XVIII. Nódulos parasitarios cutáneos por larvas de *Agamospirura spec?* en *Astyanax essequibensis* (Characidae)." 9 (1/4), 121-122.
 e. CABALLERO y C., E. & ZERECERO D., M. C., 1950.—"Trematodos de las tortugas de México. VI." 9 (1/4), 123-132.
 f. CRUZ LOZANO, F., 1950.—"Hallazgo de *Echinoparyphium recurvatum* (von Linstow, 1873) en *Gallus domesticus* de México, D.F." 9 (1/4), 145-155. [English summary p. 154.]

(790a) The following species are described from Venezuela: (i) *Kalicephalus subulatus* from *Constrictor constrictor*, (ii) *Syngamus laryngeus* from *Panthera onca*, (iii) *Cruzia tentaculata* from *Didelphis marsupialis*, (iv) *Dipetalonema gracilis* from *Cebus* sp. and (v) *Diplotrriaena conceptionis* from *Holoquiscalus lugubris lugubris*. P.M.B.

(790c) At Caracas ten adult *Dipetalonema gracilis* and many microfilariae were found in ascitic fluid from the abdominal cavity of a monkey (*Cebus apella*) which was suffering from cirrhosis of the liver. No microfilariae were present in the blood. The two conditions are assumed to be unconnected. P.M.B.

(790d) One out of four nodules on a fresh-water fish, *Astyanax essequibensis*, caught near Barcelona, Venezuela, contained an encapsulated *Agamospirura* sp. P.M.B.

(790e) The first occurrence is reported of *Orchidasma amphiorchis* and *Pleurogonius linearis* in a marine turtle, *Eretmochelys imbricata*, caught in the Gulf of Tehuantepec, Mexico.

P.M.B.

(790f) *Echinoparyphium recurvatum* is reported for the first time in a domestic fowl in Mexico at Ixtapalapa. The specimens were exceptionally small. A summary based on previous work is given of the parasite's distribution and life history, and of the symptomatology and treatment of the infection.

P.M.B.

791—Revista de Paludismo y Medicina Tropical. Mexico.

- a. RUIZ REYES, F., TORRES MUÑOZ, A. & CERVANTES GARCÍA, L., 1950.—“Algunas observaciones con la dietilcarbamazina (hetrazan) como vermífugo.” 2 (1), 35-39.

(791a) As hetrazan, when used for treating onchocerciasis in Oaxaca, Mexico, also appeared to be effective against *Ascaris*, further experiments were made at Vera Cruz. *Ascaris* were eliminated in 12 out of 15 cases and *Taenia* sp. in 2 out of 3 cases treated with 2-3 mg. per kg. body-weight twice daily for three days. No purgative was required, but where necessary an enema of glycerine and water was given. The drug was well tolerated.

P.M.B.

792—Revista Paulista de Medicina.

- a. PESSOA, S. B., 1950.—“Alguns dados sobre a incidência da filaria *Wuchereria bancrofti*, na cidade de Salvador.” [Abstract.] 36 (6), 469. [Discussion p. 469.]
 b. COUTINHO, J. DE O., 1950.—“Índices de infecção natural dos planorbídeos pelas cercárias do *Schistosoma mansoni* na cidade de Salvador.” [Abstract.] 36 (6), 469-470. [Discussion p. 470.]
 c. ALENCAR, J. E. DE, 1950.—“Considerações sobre a esquistossomose no Ceará.” [Abstract.] 36 (6), 470-471. [Discussion p. 471.]
 *d. FRANÇA, O. H. DA, 1950.—“Resultados de pesquisas de parasitoses intestinais em 100 doentes patérgicos.” 37 (1), 53-56.

(792a) [This is an abstract of a paper which appeared in *Hospital, Rio de Janeiro*, 1950, 37, 593-598. For abstract see *Helm. Abs.*, 19, No. 188a.]

793—Revista do Serviço Especial de Saúde Pública. Rio de Janeiro.

- a. DEANE, M. P., 1950.—“Helmintos eliminados por um grupo de residentes da Amazônia, após um tratamento pelo hexilresorcinol.” 3 (2), 443-459. [English summary pp. 456-458.]
 b. DIAS, C. B., 1950.—“Quimioterapia antumonial na esquistossomose mansônica. (Subsidio a seu estudo.)” 4 (1), 1-351.

(793a) In the Amazon region of Brazil, 583 residents in five towns were treated with hexylresorcinol for intestinal worms; 483 of them passed a total of 25,838 worms, of which 1,119 were from a boy of eleven. The faeces of 77.2% had shown *Ascaris* ova before treatment, 42.6% were negative after treatment: 76.9% had had hookworm before treatment, 41.2% became negative after treatment. Adult *Trichuris trichiura* were found in the stools of only 16.8% of those infected during the 48 hours after treatment, but the faeces of 36.9% had become negative. 53.3% of the treated persons passed *Enterobius vermicularis* which were chiefly young females. The proportion of *Necator americanus* to *Ancylostoma duodenale* was 49.7:1 of all the hookworms recovered. One specimen of *A. braziliense* occurred in each of six patients and two *A. caninum* in one case only.

R.T.L.

(793b) [This paper was published as a thesis in 1949. For abstract see *Helm. Abs.*, 18, No. 522.]

794—Revista de la Sociedad Argentina de Biología.

- a. BACIGALUPO, J., 1950.—"Hallazgo de *Dirofilaria acutiens* (Molin, 1858) en un perro del Tigre." 26 (7/8), 332-334. [English summary p. 334.]

(794a) A female *Dirofilaria acutiens* measuring 12.3 cm. was found at autopsy in the inguinal region of a dog in the Tigre district of Buenos Aires. Although the adult is rarely demonstrable, Bacigalupo considers that it is the common filaria of dogs in Argentina. P.M.B.

795—Revista de Tuberculosis del Uruguay.

- a. PIAGGIO BLANCO, R. A., GARCÍA FONTES, W., IBARRA, J. P. & CETRÁNGOLO, R. 1950.—"Equinococosis yuxtamediastral." 18 (1), 3-15.

796—Revue Canadienne de Biologie.

- a. ARVY, L., 1950.—"Contribution à l'étude histologique de la cysticercose chez *Microtus arvalis* Pallas." 9 (4), 368-381. [English summary p. 380.]

(796a) Arvy has examined eleven *Microtus arvalis* of which two were heavily parasitized by *Cysticercus taeniae crassipitis*. He described the macroscopic and microscopic appearance and found that the lesions differed in a number of ways from those previously reported. There was an invasion of the abdominal wall and an intense intraperitoneal and intravaginal cysticerciasis; in addition the vas deferens was mechanically blocked and Arvy considers this may be the cause of the periodical fluctuations in the density of continental vole populations. He quotes a number of authors on the correlation between helminth infections and variations in the densities of animal populations. S.W.

797—Revue d'Élevage et de Médecine Vétérinaire des Pays Tropicaux.

- a. JOYEUX, C. & TRUONG-TAN-NGOC, 1950.—"Les cestodes de quelques oiseaux de basse-cour dans la région de Cholon (Viet-Nam)." 4 (2), 67-69.

(797a) Joyeux & Truong-Tan-Ngoc report cestode infections in 90% of 30,000 domestic hens, in up to 10% of 30,000 ducks and in 85% of 178 pigeons in the Cholon district of Viet Nam, French Indo-China. The species recovered from hens were: *Raillietina* (*Raillietina*) *echinobothrida* (45.94%), *R. (R.) tetragona* (29.73%), *Cotugnia digonopora* (24.32%); from ducks (where infection ranged from 0.1%-0.5% in young birds to 3%-10% in old birds): *Hymenolepis coronula* (43.24%), *H. anatina* (30.03%), *Fimbriaria fasciolaris* (24.32%), *Cotugnia* sp. and *Raillietina* sp. (one specimen each); from pigeons: *R. (R.) paucitesticulata* (42.5%), *C. taiwanensis* (28.56%), *R. (R.) carpophagi* (14.28%) and *H. serrata* var. *birmanica* (14.28%). The cestodes were apparently non-pathogenic unless present in very large numbers. The life-cycles of the species present in pigeons are unknown. P.M.B.

798—Revue de la Faculté de Médecine. Teheran.

- *a. FAGHIH, 1950.—"Fréquence des parasites intestinaux chez les écoliers d'Ispahan." 7 (10), 46-47.

799—Revue de Médecine Vétérinaire. Lyon et Toulouse.

- a. BRIZARD, 1950.—"Antiparasitaires actuels." 101, 529-544.

(799a) In a section on veterinary anthelmintics in this general review of anti-parasitic substances, Brizard deals briefly with foudadin, diphenanthene-70, toluene, sodium fluoride, iso-amyl ester of mandelic acid (which he states has been shown in America to be very efficacious and non-toxic for the treatment of ascarids in cats, dogs and horses), hetrazan, phenothiazine and "Stronglamine". Although recent trials have frequently shown "Stronglamine" to be less effective than early results indicated, it is reported to have had beneficial effects in one case of intra-ocular seteriosis in a foal. P.M.B.

800—Revue Médicale du Moyen-Orient.

- a. MAKHLOUF, J., 1950.—“Mort par péritonite suraiguë après perforation intestinale par ascarides.” 7 (2), 222-224.
- b. MAKHLOUF, A., SADER, J. & AHARONIAN, C., 1950.—“Kystes hydatiques à localisations multiples.” 7 (3), 293-297.
- c. MAURIC, G., MÉRAB, A., EL-KHAZEN, P. & TALEB, N., 1950.—“Rupture d'un kyste hydatique du foie en péritoine libre. Constatations cliniques et biologiques.” 7 (3), 347-350.

801—Revue Neurologique.

- a. TOLOSA, E., 1950.—“Expérience neuro-chirurgicale sur les hydrocéphalies par cysticercose. Considérations sur 10 cas.” 82 (5), 441-446.

802—Revue Suisse de Zoologie.

- a. BAER, J. G., 1950.—“Phylogénie et cycles évolutifs des cestodes.” 57 (3), 553-558.

(802a) Baer divides the Cestoda into five groups according to their life-cycles and traces their evolution with that of the main vertebrate groups which are their definitive hosts. The position of the vitellaria in the proglottides is of fundamental importance in their taxonomy. The most primitive cestodes, the Haplobothriidae, are parasites of the Amioidea, and the most highly evolved, the Cyclophillidea, are parasites of birds, mammals and terrestrial reptiles. Baer is of the opinion that the Cestodaria form a group totally distinct from the Cestoda, splitting off from the main stem at a very early stage in evolution; this is supported by the fact that the Cestodaria occur only in the Chimaeroids and Ganoids.

S.W.

803—Rhodesia Agricultural Journal.

- a. BROWN, D. D., 1950.—“Summary of Annual Report of the Chief Tobacco Officer for the year ended 31st December, 1949.” 47 (4), 321-326.

(803a) Experiments with D-D mixture for the control of root-knot nematode in tobacco clearly demonstrated that a dosage of between 6 and 8 c.c. per sq. ft. is necessary. Results of its use on tobacco lands are still inconclusive. Investigations are continuing on the use of certain cotton varieties as trap-crops for eelworms.

R.T.L.

804—Rhodesian Farmer.

- a. NEETHLING, L. J., 1950.—“Experiments in controlling eelworm by means of fumigation.” 4 (8), 24.
- b. MARTIN, G. C., 1950.—“Combined eelworm and weed control.” 4 (8), 29.

(804a) Neethling points out that the use of rotation crops resistant to eelworm [presumably root-knot] is expensive in Rhodesia because of their low cash value compared with tobacco, and soil fumigation is a more economic alternative. Numerous experiments are mentioned involving D-D mixture, ethylene dibromide, methyl bromide, “Thiophos”, etc., but no details are given.

B.G.P.

(804b) Martin reports excellent weed control in tobacco seed-beds from the use of methyl bromide under gas-tight covers. Where *Heterodera marioni* occurs, methyl bromide gives good control at 3 to 4 lb./300 sq. ft., but it is necessary also to treat the pathways between the seed-beds, and for this purpose D-D mixture was used. Satisfactory gas-proof covers which are not economically prohibitive have yet to be found.

B.G.P.

805—Rhodesian Tobacco Journal.

- a. MARTIN, G. C., 1950.—“Eelworm and weed control combined in seedbeds. Efficiency of methyl bromide.” 2 (8), 35, 37, 39.

(805a) Methyl bromide was applied to tobacco seed-beds of approximately 30 sq. yd. through special applicators and under gas impervious seals, supported six inches above the surface and left in position for two to three days. After removal of the seals, seed or seedlings were planted. Three months later the beds were practically free from weeds. Methyl bromide at the rate of 3–4 lb. per 300 sq. ft. gave only slight control of eelworm unless the pathways had also been fumigated with D-D mixture, when the effects were excellent. As methyl bromide is extremely toxic to human beings it is suggested that a small amount of tear gas should be added as a warning agent. R.T.L.

806—Riforma Medica.

- a. MARCO, I. DI & BONANNO, S., 1950.—“Su una rara sindrome itterigena epatosplenomegalica da cisti di echinococco del fegato. Guarigione con pneumo-paracentesi secondo il metodo di Condorelli.” 64 (22), 603–606.
- b. PIZZILLO, G., 1950.—“Sulla echinococcosi. (Cisti da echinococco primitiva della milza. Echinococco polmonare primitivo in sede parailare destra con successivo impianto simmetrico in sede parailare sinistra in seguito e rottura della prima cisti. Emissione totale e spontanea di ambedue le cisti con guarigione completa.)” 64 (43), 1153–1159.
- c. SCHIROSA, G., 1950.—“Ulteriore contributo alla terapia delle cisti di echinococco del polmone con la pneumoparacentesi.” 64 (50), 1349–1356.

807—Rivista di Biologia. Perugia.

- a. BALDELLI, B., 1950.—“Forme larvali di tipo *Multiceps* in *Mus musculus* v. *albinus*.” 42 (3), 371–376. [English summary p. 376.]

(807a) Two cysts, one the size of a walnut and the other of a hazel-nut, which were obtained from the scapular region of two laboratory mice are described and illustrated. Baldelli suggests that they are coenuri of *Multiceps serialis*. R.T.L.

808—Rivista Critica de Clinica Medica.

- a. NOFERI, G. & BORGHI, A., 1950.—“Su di un caso di cisticercosi cerebrale.” 50 (2), 264–274.

809—Rivista di Medicina Veterinaria e Zootecnia. Parma.

- a. BECILLI, S., 1950.—“Sugli ospiti intermedi dei più frequenti distomi degli animali domestici nel Bolognese.” 2 (1/2), 19–32.

(809a) Becilli examined the incidence of larval trematodes in land and fresh-water snails from various districts of the province of Bologna. His findings are not set out, but he concludes that the principal intermediaries of *Fasciola hepatica* and *Dicrocoelium dendriticum* are: in the hilly districts *Limnaea limosa* var. *intermedia* and *L. truncatula*; in the plateaux *Bythinia tentaculata*, *L. palustris*, *L. limosa*, *Planorbis complanatus*, the most widely dispersed and heavily infected being *B. tentaculata*. A table shows the incidence of the two parasites, by abattoir and by district of origin, in cattle and in sheep. *F. hepatica* occurs in 0–35% of both animals. *D. dendriticum* appears to be rare in cattle but very common in sheep, the highest incidences recorded being 80% in S. Giovanni Persiceto, 65% in Castel del Rio, and 40% in Fontanelice and in Medicina. Both parasites seem to be of little importance in the southern mountainous districts and in the low-lying plains of the north. Furcocercariae were frequently observed in the snails, but no corresponding schistosome infection is known in the local cattle. E.M.S.

810—Rivista di Neurologia.

- a. MENGOLI, G. & FRIGHI, L., 1950.—“Singolare caso di echinococco cerebrale.” 20 (1), 62–65.

811—Rivista della Ortoflorofrutticoltura Italiana.

- a. ADRIANCE, G. W., 1950.—“Profilassi e lotta diretta contro le virosi ed i nematodi del pesco negli Stati Uniti.” 34 (7/8), 119-123.

(811a) Adriance briefly reviews recent work in the U.S.A. on the virus and eelworm diseases of peaches. The latter are mainly due to *Meloidogyne incognita* and the less wide-spread but more virulent *M. javanica* (= *Heterodera marioni*). Soil fumigation is of temporary value only and the most hopeful line of control lies in the breeding of resistant peach stocks.

B.G.P.

812—Sad i Ogorod. Moscow.

- a. YASHCHUK, A. P. & TERESHCHENKO, E. F., 1950.—[Control of potato stem nematode.] Year 1950, No. 8, pp. 32-34. [In Russian.]

(812a) In the Ukraine considerable damage is caused to potatoes by eelworms. Soil disinfectants proved unsatisfactory but by propagating from early harvested seed healthy stock could be obtained within one or two years. [Based on an abstract in Hort. Abs., 21, p. 98.]

R.T.L.

813—Sang.

- a. LANGUILLON, J. & MAUZÉ, J., 1950.—“La ponction sternale dans l'anémie hypochrome de l'ankylostomiasse.” 21 (7), 652-654.

814—Schweizer Archiv für Tierheilkunde.

- a. SCHMIDT-LAMBERG, H., 1950.—“Die Trichinose.” 92 (2), 131-134.
b. ALLENSPACH, V., 1950.—“Die Trichinose in der Schweiz.” 92 (2), 134-136.

(814a) Schmidt-Lamberg, writing from Diessen in Bavaria, mentions briefly some of the most serious European outbreaks of trichinelliasis since 1860 and stresses that the danger of further outbreaks has by no means disappeared. The utmost care on the part of pig breeders, slaughterers and meat inspectors (and adequate propaganda to ensure that the general public are aware of the dangers) is essential if the infection is to be eradicated. A short [and rather lurid] description of the symptoms and course of trichinelliasis is included. [The paper contains several inaccurate statements, e.g. that trichinelliasis has been diagnosed in 43 pigs in London since the end of the war.]

A.E.F.

(814b) Allenspach states that trichinelliasis is only sporadic in Switzerland, and that native pigs are not subjected to *Trichinella* inspection as they are “practically trichinella-free”. Pig meat from foreign countries is, however, liable to inspection. *Trichinella* in wild animals is not so rare and figures are given for examinations at Zurich between 1933 and 1949: wild pigs, 171 examined (1 infected); wild foxes, 235 (40); farm-bred fur foxes, 164 (21); mink, 50 (21); nutria, 36 (2); badgers, 29 (nil); marmots, 24 (nil). *Trichinella* inspection of wild animals is obligatory.

A.E.F.

815—Schweizerische Medizinische Wochenschrift.

- a. ZIMA, O., WERDER, F. VON, SHOOR, A. VAN, HOFFMANN, A. & HEPDING, L., 1950.—“Die Entwicklung des Egressin, eines Oxyurenmittels.” 80 (28), 734-735.
b. EICHHOLTZ, F. & HOTOVY, R., 1950.—“Ueber die Pharmakologie und Toxikologie des Egressin.” 80 (28), 736-737.
c. SAUER, A. & WEISSFLUG, I., 1950.—“Klinische Prüfung des Egressin.” 80 (28), 737-738.

(815a) Zima and co-workers give an account of their attempts to find a carbaminic acid derivative which would be an effective anthelmintic. They studied 200 compounds of the urethane type: none was successful against *Ascaris*, but N-isoamylcarbaminic acid-3-methyl-6-isopropylphenyl ester (which is given the name “Egressin”) showed promise as a remedy for *Enterobius* infection. It is a colourless crystalline substance, with

its own characteristic odour and a faint smell of thymol. It is readily soluble in organic solution but hardly at all in water. All substances were tested on earthworms, isolated worm muscles, on pig *Ascaris* and on *Passalurus*. Those which showed promise were tested on infected animals and some on human volunteers.

A.E.F.

(815b) Eichholtz & Hotovy show by experiments on mice, rats, guinea-pigs, cats, dogs, human volunteers and finally on 300 patients that therapeutic doses of Egressin are on the whole very well tolerated. *In vitro* tests with earthworms, *Ascaris* and *Oxyuris* gave only a weak anthelmintic effect, but *in vivo* tests showed that a single dose of 0.1 gm. per kg. body-weight expelled nearly all *Passalurus* from the rabbit with no toxic effects on the host. Experiments with ascarids, *Ancylostoma* and tapeworms in dogs and cats were also successful.

A.E.F.

(815c) Sauer & Weissflug have used Egressin in the treatment of enterobiasis. The dosage was: children up to 12 years, 3 doses of 1 gm. over two days; children over 12 years and adults, 3 doses of 2 gm. over two days. Of the first series of 24 patients 95% remained negative for ova up to eight weeks after treatment and 40% were negative for the three months during which they were kept under observation; symptoms also disappeared. A second series of 35 patients suffering from chronic enterobiasis gave similar results: 90%, anal swabs were negative up to 6 weeks after treatment and 57% were still negative up to four months. The substance was very well tolerated. A series of 200 chronic patients treated in private practice gave equally good results.

A.E.F.

816—Semaine des Hôpitaux de Paris.

- a. CURTILLET, E., 1950.—"Aspects nouveaux de la chirurgie du kyste hydatique du poumon." 26 (15), 654-657.
- b. GOINARD, P., DESCUNS, P. & CÉRACE, G., 1950.—"Les kystes hydatiques du cerveau." 26 (15), 658-661.
- c. CATTAN, R., 1950.—"Les duodénites parasitaires." 26 (73), 3807-3812.

817—Service Publication. Division of Veterinary Hygiene, Department of Health, Australia.

- a. SEDDON, H. R., 1950.—"Diseases of domestic animals in Australia. Part 1. Helminth infestations." No. 5, 223 pp.

(817a) In this monograph Seddon segregates, largely from Australian literature, much valuable information on the helminth parasites of domestic animals in Australia, the areas where they are known to occur and those where, and under which circumstances, they cause ill health. Detailed knowledge of the distribution of many species is incomplete owing to lack of (i) organized surveys, (ii) readily available records, (iii) specific identification, especially of material from horses, cats and dogs.

R.T.L.

818—Settimana Medica.

- a. MENCI, S. & LENZI, E., 1950.—"L'utilità diagnostica del puntato sternale nelle cisti da echinococco." 38 (13), 332-333.

819—Sewage and Industrial Wastes. [Cont. of Sewage Works Journal.]

- a. WRIGHT, C. T., 1950.—"Pollution of irrigation waters." 22 (11), 1403-1412.
- b. RUDOLFS, W., FALK, L. L. & RAGOTZKIE, R. A., 1950.—"Literature review on the occurrence and survival of enteric, pathogenic, and related organisms in soil, water, sewage, and sludges, and on vegetation. II. Animal parasites." 22 (11), 1417-1427.

(819a) In this article Wright cites the reports of the City Engineer, Johannesburg, for 1945 and the Chief Medical Officer of the Union Health Department for 1946, which showed that in South Africa the use of sewage polluted water for the irrigation of vegetables and pastures was responsible for the infection of man and cattle by helminth parasites.

R.T.L.

(819b) After reviewing the literature on the occurrence and survival of helminth infections in soil, water, sewage, sludges and on vegetation, Rudolfs *et al.* draw the following conclusions: (i) helminth eggs are fairly resistant in soil, sludges and nightsoil, depending on external conditions; (ii) their survival in soils and sludges depends on the maintenance of a certain minimum moisture and on temperatures below the thermal death point, although development is retarded; (iii) the type of soil and shading which determine the moisture and temperature conditions greatly affect their survival; (iv) vegetables grown in soil contaminated with infected sewage or nightsoil may be a source of infection but a comparison with other sources of infection has never been clearly demonstrated; (v) stored nightsoil or sewage sludge may contain viable eggs for several months but composting for a sufficient period appears to result in a comparatively safe useful product; (vi) very complete sewage treatment is necessary to free the liquid entirely from helminth eggs.

R.T.L.

820—Slovenský Lekár.

- a. FIND'O, B. & ORAVEC, D., 1950.—“Príspevok k liečbe teniázy.” [Treatment of taeniasis.] 12 (9/10), 491-493.

821—Special Bulletin. Okayama Prefecture Agricultural Experiment Station.

- *1. YAMADA, W. & SHIOMI, T., 1950.—“Studies on the rice white tip disease. I. Its distribution, symptoms and cause.” No. 46, pp. 15-28.
 *5. YAMADA, W. & SHIOMI, T., 1950.—“Studies on the rice white tip disease. II. Disease control with special reference to rice seed disinfection.” No. 47, pp. 1-8.

822—Spreckels Sugar Beet Bulletin.

- a. RASKI, D. J., 1950.—“Sugar-beet nematode control.” 14 (5), 34, 40.
 b. WRIGHT, G. P., 1950.—“Sugar beet nematode in the Salinas district.” 14 (5), 35, 40.

(822a) In the heavy beet soils of California, soil fumigation to control the sugar-beet eelworm cannot be relied on to be effective. Raski therefore stresses the importance of adequate rotations with beet one year in four or five, good weed control during the rotation, early planting of beet, and precautions against spread.

B.G.P.

(822b) Sugar-beet eelworm has become the most serious disease of beet in the Salinas Valley (California). Wright states that it was first seen there in 1906; owing to leafhopper damage the beet acreage was greatly reduced between 1928 and 1932 and the eelworm population fell. Since then, leafhopper control has led to more beet being grown and therefore more eelworm. Among the usual control measures Wright refers to rotation, listing not only susceptible and insusceptible crops but also the following “hostile” crops, which are said to stimulate the release of larvae without acting as hosts: alfalfa, alsike clover, chicory, corn, flax, horse beans, red and white clovers, and rye.

B.G.P.

823—Sugar Beet. Ogden, Utah.

- a. THORNE, G., 1950.—“Crop rotation best preventative for any infestation of nematode.” 9 (8), 14-17.

824—Svensk Frötidning.

- a. BINGEFORS, S., 1950.—“Nematodangrepp på lucern.” 19 (12), 135-139.

(824a) An attack of *Ditylenchus dipsaci* in lucerne in the province of Östergötland is described. Laboratory experiments showed that it was a distinct strain which did not attack red clover. Red clover eelworm from Ultuna did not attack lucerne. Very great differences were found in resistance between different lucerne strains. Grimm was very susceptible, du Puits was not so susceptible and Nemastan and a strain from the Argentine were very resistant.

S.B.

825—Therapeutische Umschau. Berne.

- a. BÜELER, R., 1950.—“Aloxyn-Sirup.” 7 (9), 145-146.

(825a) Büeler reports that although Aloxyn (aluminium o-oxyquinoline sulphate) in granule form has proved very successful in the treatment of *Enterobius* infection, some difficulty had been experienced in getting young children to swallow it. The substance has now been prepared in the form of a syrup which is taken easily even by children aged from one to four years. The recommended dosage is one dessertspoonful three times a day for one week, repeated after a 10-14 day interval. [No information is given about the success of this treatment.]

A.E.F.

826—Thérapie. Paris.

- a. CAVIER, R. & DEBELMAS, 1950.—“Les propriétés anthelminthiques des essences de cannelle de Ceylan et de girofle.” 5 (3), 140-143.

(826a) From experiments on (i) *Rhabditis macrocerca* from a faecal culture, (ii) mice infected with oxyurids and (iii) pig ascaris, Cavier & Debelmas conclude that essential oil of cinnamon and oil of cloves have anthelmintic properties; they were relatively ineffective against *Hymenolepis nana* var. *fraterna* in mice. Hatching of ova of *Syphacia obvelata* or *Aspicularis tetraptera* was inhibited and embryos were killed if in contact with the oil in water for a minimum of 75 hours. The active principles of these substances remain to be determined.

P.M.B.

827—Thorax. London.

- a. D'ABREU, A. L., 1950.—“The removal of a hydatid cyst from the wall of the left ventricle.” 5 (4), 362-368.

828—Tidsskrift for den Norske Laegeforening.

- a. TORP, K. H., 1950.—“*Diphyllobothrium latum* i Norge.” 70 (2), 38-39.

(828a) In Norway *Diphyllobothrium latum* has been found mainly in patients who have been infected in other countries. It is, however, possible that the parasite is endemic in some parts of north Norway near the Finnish border. A new case has now been seen in south Norway. As this patient had not been in other parts of the country or in foreign countries the infection was apparently acquired locally.

S.B.

829—Tierärztliche Umschau.

- a. WETZEL, R., 1950.—“Zur Magenwurmkrankheit der Rinder.” 5 (13/14), 235-241.
 b. FRITZSCHE, K., 1950.—“Neuzeitliche Bekämpfung parasitärer Erkrankungen der Haustiere.” 5 (13/14), 251-255.
 c. SONNECK, H., 1950.—“Beitrag zur Bekämpfung des Rinderlungenwurms unter besonderer Berücksichtigung der Verwendung von Surfen-Jod-Suspension.” 5 (21/22), 387-389.
 d. VINGERHOET, 1950.—“Antimosan-Prontosilösung zur intratrachealen Behandlung des Lungenwurmbefalls der Schafe.” 5 (23/24), 462-463.

(829a) Wetzel's observations on the aetiology, epidemiology and treatment of stomach worm disease in cattle are based on a study of 64 infected animals from 14 herds in the Hoya district during 1946 and 1947. In all herds there were mixed infections of *Haemonchus contortus*, *Ostertagia ostertagi* and *Cooperia oncophora* with isolated appearances of *Trichostrongylus axei* and *Nematodirus filicollis*. The 1946 outbreaks are ascribed to high density of cattle on pasture and to climatic conditions favourable to larval development; the 1947 outbreaks were considered to be secondary infections due primarily to malnutrition. Treatment with phenothiazine (a single dose of 15-20 gm. for calves, 25-30 gm. for yearlings and 35-40 gm. for two-year-olds) was 97-100% successful against *Haemonchus*, 78-93% successful against *Ostertagia*, and 48-63% successful against *Cooperia*. Preventive measures recommended include anthelmintic treatment in spring and autumn, adequate feeding, stall hygiene, and rotational grazing.

A.E.F.

(829b) [This paper appears in French in *Bull. Off. int. Épizoot.*, 1950, 34, 143-156. For abstract see No. 543b above.]

(829c) Sonneck recommends intratracheal injection of a suspension of "Surfen" (*bis*-2-methyl-4-amino-quinolyl-6-carbamide-hydrochloride) and iodine for the treatment of *Dictyocaulus viviparus* infection in cattle. The suspension is prepared by adding 4 c.c. of 5% tincture of iodine and 8 c.c. of 2% "Surfen" stock solution to 1,000 c.c. water. Preparation is simplified by using "Surfen" tablets, each of 0.1 gm., instead of the stock solution: 1½ tablets should be dissolved in one litre of water. The dosage ranges from 20-40 c.c. for calves to 80-100 c.c. for cows and is well tolerated. Of 172 animals treated only 48.8% showed larvae in the faeces 14 days after a single dose and only 16.9% after a second injection.

A.E.F.

(829d) Vingerhoet briefly reports that he treated a flock of 230 sheep severely infected with lungworms by means of intratracheal injection of a combination of Antimosan and Prontosil. The preparation contained 900 gm. Antimosan solution and 100 gm. 5% Prontosil solution. A single dose of 5.0 [gm.] for lambs and 10.0 [gm.] for sheep was repeated after an interval of one week. When the flock was seen again six weeks later they appeared to have recovered fully.

A.E.F.

830—Tijdschrift voor Diergeneeskunde.

- a. PLANK, G. M. VAN DER & HIRSCHFELD, W. K., 1950.—"Gezonde grond en bestrijding van ziekten der dieren." 75 (15), 657-659.

(830a) Cleveringa, in a paper on the dangers of excessive manuring which appeared in *Tijdschr. Diergeneesk.*, 1950, 75, 532-533, affirmed that various diseases, including parasitic invasions of livestock, can be controlled by feeding to the animals fodder off soil in a good physical state. Plank & Hirschfeld point out that Cleveringa furnished no concrete data to prove this contention.

R.T.L.

831—Trabajos del Instituto de Biología Animal. Madrid.

- a. SÁNCHEZ BOTIJA, R., 1950.—"Sobre la presencia del *Trichuris globulosa* en las cabras de España." 9, 269-272.

(831a) Specimens of *Trichuris globulosa* were found in a goat in the Falces district of the province of Navarra, Spain. This is thought to be the first record of this species in Spain. Other helminths present were *Haemonchus contortus*, *Ostertagia ostertagi*, *Oesophagostomum venulosum*, *Dicrocoelium dendriticum* and a single specimen of *Chabertia ovina*.

P.M.B.

832—Transactions of the American Academy of Ophthalmology and Otolaryngology.

- a. WILDER, H. C., 1950.—"Nematode endophthalmitis." Year 1950, pp. 99-109.

(832a) Nematode larvae or their residual hyaline capsules were demonstrated in serial sections of 24 out of 46 eyes: each eye was obtained from a different patient and almost all from children. The findings are illustrated by 15 photomicrographs. In one case examination of over 2,300 sections revealed only a single larva. In most cases the eyes had been enucleated because of a clinical diagnosis of retinoblastoma. All were diagnosed pathologically as pseudoglioma, Coats' disease and endophthalmitis. In no case was a parasite found in the original routine sections. In nine cases the larvae were identified by B. G. Chitwood as third-stage hookworm larvae. In addition to the 24 proved cases, the similar pathological picture in 22 cases suggested a diagnosis of nematode endophthalmitis although no larvae were found. The possibility of *Ascaris* or *Strongyloides* larvae causing a similar condition is suggested.

P.M.B.

833—Transactions of the British Mycological Society.

- a. DUDDINGTON, C. L., 1950.—“Further records of British predacious fungi. I.” 33 (3/4), 209–214.

(833a) Six species of predacious fungi are recorded, four of which capture nematodes, the other two amoebae. Five of the fungi have not previously been found in Britain. J.B.G.

834—Transactions of the Kansas Academy of Science.

- a. GAAFAR, S. M. & AMEEL, D. J., 1950.—“Incidence of helminths in some Kansas dogs.” 53 (3), 328–330.
 b. PETRI, L. H., 1950.—“Life cycle of *Physaloptera rara* Hall and Wigdor, 1918 (Nematoda: Spiruroidea) with the cockroach, *Blatella germanica*, serving as intermediate host.” 53 (3), 331–337.

(834a) Of 42 stray dogs examined in Kansas, 29 harboured helminths. The specific incidence was *Taenia pisiformis* 49.5%, *Dipylidium caninum* 48.8%, *Toxocara canis* and *Toxascaris leonina* 41.3% and *Ancylostoma caninum* 20.7%. In one dog there were 303 specimens of *Taenia pisiformis*, several of which were triradiate and tetra-radiate. R.T.L.

(834b) The life-cycle of *Physaloptera rara*, a common parasite of dogs, cats and coyotes in the Manhattan area of Kansas, has been experimentally completed in *Blatella germanica*. The eggs remain viable in 0.8% saline for at least two months at 4°C. The first, second and third-stage larvae are described. The third-stage larvae were first found 21 days after infection. A cat and a dog were successfully infected but it is probable that the German cockroach is not the natural intermediate host. Petri has also found infective larvae in *Tribolium confusum* after experimental infection. He suggests that various species of Coleoptera and Orthoptera may be the normal vectors. R.T.L.

835—Transactions and Proceedings of the Royal Society of New Zealand.

- a. RICHARDSON, L. R., 1950.—“Studies on New Zealand Hirudinea. Part I. *Pontobdella benhami* n.sp.” 78 (1), 97–100.

(835a) *Pontobdella benhami* n.sp. found on the deck after trawling operations in the Dunedin and Wellington areas, is a triannulate pontobdellid leech which most closely resembles *P. tasmanica* but has eight primary tubercles on the middle annulus of each segment, 12 tubercles on the first and last annuli in each complete segment and a clitellum of six annuli of which the last lacks tubercles. R.T.L.

836—Transactions of the Royal Society of Canada. Section V. Biological Sciences.

- a. CAMERON, T. W. M., 1950.—“Parasitology and evolution.” [Presidential address.] 44, 1–20.

(836a) In his Presidential Address to the Royal Society of Canada, Cameron skilfully co-ordinates the evolutionary developments of many of the main groups of parasitic helminths with those of their hosts. Helminthological evidence points to a post-mesozoic, possibly palaeocene, connection between South America and Africa and a later connection between Africa and Australia. But much greater enthusiasm for parasitism and more accurate and detailed studies, particularly of taxonomy and morphology, are needed to provide a basis for more definitive conclusions than can be drawn from present-day knowledge. As parasites are part of the host's environment and may evolve with it, a better understanding of these intimate associations should assist in revealing the true phylogenetic relationships of their hosts. R.T.L.

837—Transactions of the Wisconsin Academy of Sciences, Arts and Letters.

- a. FISCHTHAL, J. H., 1950.—"Parasites of northwest Wisconsin fishes. II. The 1945 survey." 40 (1), 87-113.

(837a) In this second report Fischthal records, partly in tables and partly in annotations, the parasites found in 926 fishes belonging to 40 different species and subspecies, collected from 27 lakes and streams in north-west Wisconsin during 1945. [For abstract of previous part see Helm. Abs., 16, No. 653a.]

R.T.L.

838—Trudi Gelmintologicheskoi Laboratorii. Akademii Nauk SSSR.

- a. SHIKHOBALOVA, N. P. & KUSTOVA, L. I., 1950.—[Influence of Ascaridae on the amount of the reserve of vitamin A in the liver of chicks.] 4, 5-16. [In Russian.]
 b. MOZGOVOI, A. A., 1950.—[Notes on the foundation of the genus *Pseudanisakis* (Layman & Borovkova, 1926) nov.gen.] 4, 17-24. [In Russian.]
 c. SPASSKI, A. A., 1950.—[Characteristics of the cestode of squirrels, *Catenotaenia dendritica*.] 4, 25-29. [In Russian.]

(838a) Three groups of chicks (in addition to controls) kept on balanced diet were given 100, 500 and 1,000 infective ova of *Ascaridia*. As a result of the infection it was found that the liver reserve of vitamin A diminished; this condition continued for some time after the birds had lost most of the worms which had failed to establish themselves in the intestine. The process of infection is connected with a drop in weight gain in proportion to the intensity of the infection. This is interpreted to mean that the arrest of the development of the host corresponds to the period of penetration of the larvae in the intestinal wall. While the gain was 85% in the controls, it was 73.6%, 59.1% and 47.8% in the infected groups. This was most apparent on the 20th day of the infection. When observed 30 days after receiving the infective ova, the group of chicks which had received 100 eggs showed 32% of them developed to adult worms, the group which had received 500 eggs, about 4%, and that which received 1,000 eggs, 2.2%. After 54 days, when the first ova appeared, the proportion of adult worms to introduced ova was 25.2%, 3.6% and 2.9% respectively. In the second group, however, one chick showed 410 adult worms, thus upsetting the statistics. Similar high infection rates were observed in a few individuals in other experiments.

G.W.

(838b) The subgenus *Pseudanisakis* Layman & Borovkova, 1926 (type species *Ascaris rotundata* Rud., 1819) is raised to generic rank with *Anacanthocheilus* Wuelker, 1929 as synonym, while *Pseudanisakis* Yamaguti, 1941 (type species *P. rajae*) is regarded as distinct. The latter name is considered by Mozgovoi to be preoccupied and is renamed *Metanisakis*. A new diagnosis of *Pseudanisakis* and a description of *P. rotundata* n.comb. are given. Its hosts are *Chimaera affinis*, *Galeus vulgaris*, *Laemargus borealis* and *Raja* spp.

G.W.

(838c) Spasski discusses the taxonomic status of *Catenotaenia*. It belongs to the Catenotaeniinae Spasski, 1949 which presumably is linked with the Anoplocephalidae, although the taxonomic relationship between them is not yet clear. The Catenotaeniinae should certainly be included in the Anoplocephaloidea. Specimens from *Mesocricetus brandt* and *Cricetulus migratorius*, ascribed by Akhmyan (1946) to *Catenotaenia dendritica* (a parasite of *Sciurus vulgaris*), differ from typical specimens in having 35-38 instead of 50-60 lateral branches of the uterus. They should be regarded as *Catenotaenia cricetorum* Kirshenblatt, 1949. A new description of *C. dendritica* is given on the basis of the specimens from squirrels from the vicinity of Moscow.

G.W.

838—Trudi Gel'mintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

- d. SPASSKI, A. A., 1950.—[Nomenclature of some representatives of the cestode family Hymenolepididae Fuhrmann, 1907.] 4, 30–31. [In Russian.]
- e. SPASSKI, A. A., RIZHIKOV, K. M. & SUDARIKOV, V. E., 1950.—[Notes on the helminth fauna of the Menzbier marmot (*Marmota menzbieri* Kashk.).] 4, 32–39. [In Russian.]
- f. GUSHANSKAYA, L. K., 1950.—[New Spirurata of birds.] 4, 40–52. [In Russian.]
- g. GUSHANSKAYA, L. K., 1950.—[On the invalidation of the tribe *Antennocarea* and the genus *Antennocara*.] 4, 53–54. [In Russian.]
- h. GUSHANSKAYA, L. K., 1950.—[Studies on the Spirurata of water birds in U.S.S.R.] 4, 55–63. [In Russian.]

(838d) *Dicranotaenia* Railliet, 1892 (type species *Taenia coronula*) is a synonym of *Staphylocystis* Villot, 1877 (type species *S. micracanthus*). As *S. micracanthus* is synonymous with *Taenia pistillum* Dujardin, 1845, the latter shall be regarded as the type of *Staphylocystis*, i.e. *S. pistillum* n.comb. Twenty-two species of this genus are listed as new combinations. *D. diaphana* and *Hymenolepis soricis* belong to *Neoskrjabinolepis*, for they are characterized by the occurrence of series of segments in the same stage of development. This peculiarity is called serial heterochronous metamerism. G.W.

(838e) *Marmota menzbieri* which is endemic to the southern slopes of the Talas-Alatau harboured *Ascaris tarbagan*, *Paranoplocephala transversaria* and *Citellina alatau* n.sp. Descriptions of the two latter species are given. *P. transversaria* differs a little from the description given by Baer in having more testes (80–100) and a slightly different copulatory apparatus. There are thickly crowded spines on the swollen base of the cirrus. The cirrus pouch crosses the longitudinal vessels in young segments but is confined to the outer space in mature ones. The female genital glands are confined to the poral half of the segment. In *Citellina alatau* the male is 5.9 mm. to 6.3 mm. in length, with a spicule 0.125 mm. long; the female is 11.2 mm. to 12 mm. long and the ova have, on both poles, filiform filaments which are twice as long as the ovum. It is differentiated from five other species of *Citellina*. G.W.

(838f) Three new species and two new genera are based on material collected during the 265th Helminthological Expedition in the Komi Republic. *Skrjabinobronema schikhobalovi* n.g., n.sp. from the intestines of *Numenius phaeopus*; this new genus which belongs to the Stellocaronematinae (Histioccephalidae Skrjabin, 1941) is differentiated from *Stellocaronema* and *Stellobronema* by the presence of four circum-oral appendages, each of which is split into three finger-like branches, and the vulva is in the posterior part of the body. *Viktorocara schejkini* n.g., n.sp. is from the gizzard and proventriculus of *Terekia cinerea*; this genus belongs to the subfamily Ancyracanthopsinae and is differentiated from *Ancyracanthopsis* and *Sciadiocara* by having a long pharynx and finger-like cuticular peri-oral appendages, their tapering distal extremities being connected to the body by membranes. *Ancyracanthopsis petrovi* n.sp. from *Numenius phaeopus* is differentiated from the four known species. G.W.

(838g) *Antennocara* Vasilkova, 1926 is considered to be a synonym of *Schistorophus* Railliet, 1916. The tribe Antennocarea is thus invalidated. *Antennocara skrjabini* Vasilkova, 1926 (nec Solonitzin, 1928) should be called *Schistorophus skrjabini* (Vasilkova, 1926) Gushanskaya, 1950. G.W.

(838h) Twenty-three species belonging to six families and twelve genera of the Spirurata are recorded in birds from various sites in the European and Asiatic parts of the Soviet Union. *Desmidocercella skrjabini* Gushanskaya, 1949 from *Phalacrocorax carbo* and *P. pygmaeus* which it is stated was first mentioned in a paper [not yet published?] by Skryabin, Shikhobalova & Sobolev, 1949, is now fully described. A key is provided for four species of the genus *Desmidocercella*. Contrary to the opinion of Dubinin, who

838—Trudi Gel'mintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

- i. BOEV, S. N., 1950.—[Contribution to the classification of the lung nematodes of the genus *Protostrongylus* Kamensky, 1905.] 4, 64-67. [In Russian.]
- j. VOLKOVA, Z. M., 1950.—[Notes on the helminth fauna of horses in the Kirghiz S.S.R.] 4, 68-71. [In Russian.]
- k. GARKAVI, B. L., 1950.—[Helminth fauna of mammals in Southern Kirghizia.] 4, 72-74. [In Russian.]
- l. GNEDINA, M. P. & POTEKHINA, L. F., 1950.—[Notes on the trematode fauna of birds in the Kirghiz S.S.R.] 4, 75-83. [In Russian.]
- m. MATEVOSYAN, E. M., 1950.—[Notes on the cestode fauna of birds in Southern Kirghizia.] 4, 84-89. [In Russian.]
- n. PETROV, A. M. & CHERTKOVA, A. N., 1950.—[Notes on the nematodes of birds in Southern Kirghizia.] 4, 90-99. [In Russian.]
- o. PETROCHENKO, V. I., 1950.—[Notes on the Acanthocephala of birds in Southern Kirghizia.] 4, 100-105. [In Russian.]

regarded *Desmidocerca* as belonging to the Spirurata and *Desmidocercella* as belonging to the Filariata, the author considers that both genera are closely related and belong to the family Desmidocercidae which constitutes a link between the Spirurata and Filariata, with a closer affinity with the former. G.W.

(838i) Boev claims that the list of species of *Protostrongylus* published in 1946 by Dougherty & Goble omits seven described by Soviet authors. Of these three were invalidated, *P. kochi*, *P. hobmaieri* and *P. raillieti*, and four were apparently unknown to them, *P. muraschkinzewi* Davtian, 1940, *P. davtiani* Savina, 1940, *P. andreievi* Schulz & Kadenazi, 1949 and *P. tauricus* Schulz & Kadenazi, 1949. The author insists on the validity of the three former species, but regards *P. rufescens* and *P. unciporus* as sp. inq. He agrees with Schulz & Kadenazi (1949) that *P. rufescens* var. *cuniculorum* Joyeux & Gaud, 1946 is an independent species, and he lowers the rank of *P. muraschkinzewi* to that of a subspecies of *P. kochi*. Thus the species in the genus *Protostrongylus* number 17. Boev splits *Protostrongylus* into four subgenera, viz., *Protostrongylus*, *Davtianostongylus* n.subg., *Hobmaierostongylus* n.subg. and *Skrjabinstongylus* n.subg. A key to the species is appended. G.W.

(838j) Twenty-three species of strongylids are listed. All except two have conventional generic names. These two are *Schulzetrichonema goldi* (Boulenger, 1917) Ershov, 1943 and *Petrovinema poculatum* (Looss, 1900) Ershov, 1943. G.W.

(838k) Fourteen species of helminths from various mammals in southern Kirghizia are listed. There is a full description of *Trichocephalus surka* n.sp. from a ground squirrel. [The scientific name of this host is not recorded.] G.W.

(838l) Out of 528 birds examined in Kirghizia during the 250th Soviet Helminthological Expedition, 94 (17.8%) proved to be infected with trematodes and many were new hosts. Twenty-four species were identified. Only *Brachylaemus* sp. from *Columba livia* is fully described. G.W.

(838m) Nineteen known species of cestodes from birds in southern Kirghizia are recorded. None occurred in new hosts. Some new observations on morphology are reported. G.W.

(838n) Out of 549 birds dissected in southern Kirghizia, 135 (24.6%) proved to be infected with nematodes. Forty-one species were identified and listed under their hosts. A detailed description of *Cardiofilaria skrjabini* from *Hypotriorchis subbuteo* is now given for the first time, although it was mentioned in the monograph on Filariae by Skryabin & Shikhobalova in 1948. G.W.

(838o) Of the 549 birds dissected in southern Kirghizia during the 250th Soviet Helminthological Expedition, 50% proved to be harbouring parasitic worms, but only 5% were infected with Acanthocephala. The six species recorded included *Centrorhynchus skrjabini* from *Corvus corone orientalis*, *Pica pica*, *Turdus merula intermedius* and *T. viscivorus*, and *Centrorhynchus lanceoides* and *C. lancea* from *T. merula intermedius*. G.W.

838—Trudi Gelmintologischeskoi Laboratorii. Akademii Nauk SSSR. (cont.)

- p. PETROCHENKO, V. I., 1950.—[Notes on the Acanthocephala of birds of the Barabin Lakes.] 4, 106–107. [In Russian.]
- q. SKARBILOVICH, T. S., 1950.—[Notes on the helminths of amphibians and reptiles in Southern Kirghizia.] 4, 108–132. [In Russian.]
- r. RUKHLYADEV, D. P., 1950.—[The lung nematode *Neostrongylus linearis* (Marotel, 1913) in wild ruminants in the Caucasus.] 4, 133–135. [In Russian.]
- s. RUKHLYADEVA, M. N., 1950.—[A new *Capillaria* from the stomach of a water rat.] 4, 136–138. [In Russian.]
- t. IVANOV, I. I., 1950.—[Biochemistry of parasitic worms.] 4, 139–166. [In Russian.]
- u. SHUMAKOVICH, E. E., & BORISOVICH, F. K., 1950.—[List of papers on general and veterinary helminthology published in Russia between 1781 and 1949.] 4, 167–260. [In Russian.]
- v. MATEVOSYAN, E. M., 1950.—[Morphological and taxonomic characteristics of the paruterinid cestodes of game birds and an attempt to determine their phylogenetic relationship.] [Abstract.] 4, 261–263. [In Russian.]

(838p) Of 799 birds from the Barabin Lakes examined during the 257th Helminthological Expedition, 35 (4.4%) proved to be carrying Acanthocephala. Five species are registered, including *Polymorphus mathevossianae* from three new hosts: *Bucephala clangula*, *Anas platyrhynchos* and *A. strepera*. G.W.

(838q) The following little known or new species are described: *Rhabdias microoris* Semenov, 1929 from the lungs of *Rana* sp.; *Spinicauda mathevossianae* n.sp. in *Rana* sp. and *Bufo* sp.; *Cosmocerca timofejevoi* n.sp. in *Rana* sp. and *Bufo* sp.; *Gorgoderia amplicava* var. *asiatica* n.var. in *Rana* sp.; *Foleyella skrabini* in *Elaphe* sp., and *F. shikhobalovi* in *Elaphe* sp. and *Lacerta* sp. Charts giving the characters of all species of *Rhabdias*, *Spinicauda* and *Cosmocerca* parasitizing amphibians and of *Foleyella* parasitizing reptiles are appended. G.W.

(838r) *Neostrongylus linearis* is recorded from the Caucasus in *Rupicapra rupicapra caucasica* and *Capra severtzovi*. G.W.

(838s) *Capillaria wioletti* n.sp. is described from *Arvicola terrestris* in the Khoper National Forest. G.W.

(838t) This is a review of biological processes in the physiology of helminths. The following problems are discussed: ecological conditions in the intestinal tract of the host; energy release in anaerobic conditions; glycogen, fats, lipoids and proteins in the tissues of helminths; nitrogen metabolism; oxygen metabolism; hormones; biochemistry of the muscular system; artificial media for the cultivation of helminths. The two pages of references contain 23 Russian titles. G.W.

(838u) This is the second part of the list of papers on general and veterinary helminthology published in Russia between 1781 and 1949; the first part appeared in Volume 3 of the Papers of the Helminthological Laboratory of the Academy of Sciences of the U.S.S.R. It includes names of authors beginning with K (No. 948) and terminates the alphabet with No. 3100. Numbers 3102 to 3159 include translations of foreign books into the Russian language. On pages 247–260 the papers, cited only by their numbers, are classified according to subjects. [Although the list claims to be comprehensive it does not contain papers of some productive Russian authors e.g. Schulman, Filipjev, and is incomplete in respect of those of many others, including Skryabin.] G.W.

(838v) This is a summary of a doctorate thesis [apparently not published in full]. It mentions new typing of the scolex armament and the paruterine organs. In the latter, two varieties are recognized and are regarded as of subfamily significance. The geographical distribution of paruterinids is outlined. Twenty-six species are recorded in U.S.S.R. A comparative study of histology, morphology, ecology and zoogeographical distribution is used to elucidate the phylogenetic relationship of the Paruterinidae. The family is divided into three subfamilies: Paruterininae Fuhrmann, 1907, Biuterinae Meggitt, 1927 and Anonchotaeniinae n.subf. [Matevosyan, 1948]. Each is further divided into two tribes for

838—Trudi Gel'mintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

w. MOZGOVOI, A. A., 1950.—[Ascaridata of animals.] [Abstract.] 4, 263–269. [In Russian.]

which the presence or absence of rostellar hooks serves as a basis. The genus *Paraterina* is divided into two subgenera *Paruterina* and *Unilateriporina*. A new genus *Multiuterina* [Matevosyan, 1948] of the subfamily Biuterinae is mentioned but no type species is indicated in this summary.

G.W.

(838w) This is a summary of a doctorate thesis [apparently unpublished]. The suborder Ascaridata Skryabin, 1915 is divided into two superfamilies: Ascaroidea Railliet & Henry, 1915, and Anisakoidea n.superf. Ascaroidea included only one family, Ascaridae Baird, 1853, while Anisakoidea included four families: Anisakidae Skryabin & Karokhin, 1945, Goeziidae Skryabin & Karokhin, 1945, Heterocheilidae Railliet & Henry, 1912 (sensu stricto) and Angusticaecidae n.fam. Four biological types can be recognized among the Ascaridata: (i) ascarioid type, which is represented by parasites of terrestrial mammals, and is characterized by the hepato-pulmonar migration of the larva in the final host; (ii) ascaridioid type, occurring in the parasites of land birds, is characterized by direct life-cycle, without migration of the larva; (iii) toxascaroid or intra-uterine type, occurring in parasites of some domestic mammals, the larva hatches in the intestines of the female host, enters the blood stream and penetrates through the placenta to the embryo, in which it reaches maturity after birth; (iv) anisakoid type, peculiar to parasites of water animals, in which the parasite needs an intermediate host in whose tissues its larva encapsulates. The geographical and ecological distribution as well as the phylogenesis of the Ascaridata is discussed. Four new genera are proposed [their diagnosis is not given in this article]: *Plicatolabia*, *Pseudoterranova*, *Ryjkovascaris* and *Metangusticaecum*. As *Pseudanisakis* sensu Yamaguti, 1941 is preoccupied by *Pseudanisakis* Layman & Borovkova, 1926, it is renamed *Metanisakis* nom.nov. The latter name originally proposed for a subgenus is now elevated to generic rank. The following genera are split into subgenera: *Anisakis* into *Anisakis* and *Skrjabinisakis*; *Contracaecum* into *Contracaecum*, *Erschovicaecum* and *Ornitocaecum*; *Multicaecum* into *Multicaecum* and *Brevicaecum*; *Paranisakis* into *Paranisakis* and *Ortoanisakis*; *Porrocaecum* into *Porrocaecum* and *Laymanicaecum*; *Terranova* into *Terranova* and *Sauronema*. Nine new species are described, viz., *Anisakis ivanizkii* n.sp., *A. skrjabini* n.sp., *Contracaecum oschmarini* n.sp., *C. spasskii*, *Dujardinascaris antipini* n.sp., *Porrocaecum skrjabinensis* n.sp., *P. tamari* n.sp., *Terranova petrovi* n.sp. and *Amplicaeum schikhobalovi* n.sp. Four new species are also created from descriptions of other authors: *Cloeoscaris simiae* n.sp., *Contracaecum osmanovi* n.sp., *Porrocaecum laymani* n.sp. and *Anisakis schupakovi* n.sp. [but no description of these species is given in this article]. Eighteen species are transferred to other genera appearing as the following combinations: *Contracaecum collare* n.comb., *C. legendrei* n.comb., *C. parvum* n.comb., *C. iheringascaris* n.comb., *Metanisakis rajae* n.comb., *Terranova brevicapitata* n.comb., *T. circularis* n.comb., *T. quadrata* n.comb., *T. serrata* n.comb., *Metangusticaecum brasiliense* n.comb., *Heterotyphlum multipapillosum* n.comb., *H. obtusocaudatum* n.comb., *Paranisakiopsis pectinis* n.comb., *Porrocaecum clerici* n.comb., *Ryjkovascaris diodonis* n.comb., *Plicatolabia hagenbeki* n.comb., *Goezia magna* n.comb. The four following species, wrongly regarded as synonyms by other authors, are restored: *Anisakis küenthalii*, *A. patagonica*, *Contracaecum multipapillosum* (= *Heterotyphlum multipapillosum*), *Porrocaecum quadrata*. The following names are invalidated as synonyms: (i) the family name Acanthocheilidae; (ii) the generic names *Cerascaris*, *Iheringascaris*, *Thynnascaris*, *Amphicaecum*; (iii) the specific names *Contracaecum himeu*, *C. umiu*, *C. filiformis* Osmanov, 1940, *Amplicaeum ardei*, *Porrocaecum serpentulus*, *P. adunca* Kurashvili & Tabidze, 1947, *Dujardinia baylisi*, *D. dujardini* [no authors and no correct names for these synonyms are quoted in this article]. A taxonomic table of the Ascaridata shows the relationship of all its genera. It is claimed that in the second part of the thesis descriptions are given of all known species of this order and that all Soviet species are described anew from original material.

G.W.

838—Trudi Gel'mintologicheskoi Laboratorii. Akademii Nauk SSSR. (cont.)

- x. SPASSKI, A. A., 1950.—[Anoplocephalid tapeworms of domestic and wild animals.] [Abstract.] 4, 269–273. [In Russian.]
- y. PETROCHENKO, V. I., 1950.—[On the causative agent of polymorphosis of ducks and problems connected with its epidemiology and prophylaxis.] [Abstract.] 4, 273–274. [In Russian.]
- z. POPOVA, K. A., 1950.—[Study of the methods of treatment of dictyocauliasis of cattle.] [Abstract.] 4, 274–275. [In Russian.]
- ba. SHULMAN, E. S., 1950.—[Parasite fauna of fishes in the White Sea fisheries.] [Abstract.] 4, 275–278. [In Russian.]

(838x) The original manuscript of this thesis [apparently not yet published] had 1,160 pages, 255 figures, 14 tables and 10 zoogeographical maps. The suborder Anoplocephalata Skryabin, 1933 was shown to comprise 240 species of which 37 had been recorded from the territory of the Soviet Union. Much attention was paid to the geographical distribution of the anoplocephalid worms. Twelve new genera and subgenera, and 11 new species were established, and 57 species were transferred to other genera. [The names are not quoted.] The following species were regarded as superfluous: *Avitellina lahorea* Woodland, 1927, *A. sudanea* Woodland, 1927, *A. southwelli* Nagaty, 1929, *A. woodlandi* Bhalerao, 1936, *Moniezia alba* Perroncito, 1879, *M. rangiferina* Kolmakow, 1938. *Matevotaeniinae* was made a synonym of *Linstowiinae*, and *Skrjabinochoridae* a synonym of *Linstowiidae*. *Inermicapsiferinae* was transferred from *Anoplocephalidae* to *Linstowiidae*. *Anoplocephalata* was divided into four new superfamilies: *Anoplocephaloidea*, *Hymenolepidoidea*, *Davainoidea* and *Nematotaenioidae*. G.W.

(838y) This is a summary of a doctorate thesis [apparently not yet published]. The full life-cycle of *Polymorphus magnus* has been followed. In *Gammarus lacustris* the acanthella develops in 54–60 days at 18°C.–25°C. Development is three times as slow at 9°C.–12°C. The ova first appear in the faeces of the duck 27–30 days after an infective feed. G.W.

(838z) The seasonal dynamics of dictyocauliasis have been studied and the results used as a basis for sanitation. Dictyocauliasis is primarily an infection of young animals. Calves infected in their first season become main disseminators in the following year. Under conditions obtaining in Central Russia, the period August to October shows the highest infection rate. Dissection of lungs during the winter showed 1.3% infection in adult animals and 7.4% in animals 1–2 years old. Strict isolation of young animals is the necessary prophylactic measure. Intratracheal injection of iodine solution (1 gm. iodine, 2 gm. potassium iodide, 1,500 ml. water) at the rate of 1 ml. per kg. body-weight, repeated after 10 to 12 days' interval, showed 95%–100% of successful treatment. If necessary this interval may be shortened to five hours without harmful effect. The large dose suggested produces no untoward complications if there is no deep pathological process or simultaneous bacterial infection in the lungs. G.W.

(838ba) 943 specimens of White Sea fishes, belonging to 26 species, were dissected. Among the parasites found were 7 species of Monogenoidea, 29 species of Digenoidea, 13 species of Cestoda, 11 species of Nematoda, 3 species of Acanthocephala and one species of Hirudinea. New species mentioned are *Gyrodactyloides bychovskii* n.sp. on salmon, *Diptherostomum microacetabulum* n.sp. in "zoubatka", *Capillaria coregoni* n.sp. in "ssig", and *Nanacanthocheilus dogeli* n.sp. (the smallest parasitic nematode known) in the fry of *Gasterosteus aculeatus*. The life-history of *Echinorhynchus gadi* of the cod was investigated. Most of the adult worms died in August and September when the usually high rate of infection dropped considerably. It rose again the next month when new generations of parasites settled in the fish. The life-history of *Podocotyle atomon* in the White Sea was shown to be cyclical. Infection of the first intermediate host, *Liittorina saxatilis*, occurred in the spring and almost disappeared towards autumn. At that time the infection of the second intermediate host, a crustacean named "bokoplay", rose to 80%–100% while the

838—Trudi Gelmintologischeskoi Laboratorii. Akademii Nauk SSSR. (cont.)

bb. SHULMAN, E. S., 1950.—[Parasites of fishes in the water basins of the Latvian S.S.R.] [Abstract.] 4, 278–281. [In Russian.]

infection of the definitive host (fish) dropped. *Podocotyle atomon* parasitized many species of fish and in some induced characteristic modifications of the internal organs. The intensity of the parasitic infection in the fish was generally low, except that caused by larvae of *Porrocaecum decipiens* which heavily parasitized the liver of *Cottus* spp. Various species of fishes living in similar ecological conditions often had common parasitic worms. Several species of trematodes known in fishes of the Pacific were found in different but related hosts in the White Sea. G.W.

(838bb) 1,309 specimens of fishes belonging to 42 species, of which 20 were sea fishes, were examined for the presence of parasites, mainly to elucidate the ecological aspect of their host-parasite relationship. Of 200 species of parasites three were new helminths, viz., *Gyrodactylus gobii* n.sp. on the gills of *Gobio* sp., *Gyrodactylus vimbae* n.sp. on the gills of *Vimba vimba*, and *Hepaticola petruschewskii* n.sp. in the liver of several species of fishes [no description of these species is given in the abstract]. It is stated that some insufficiently known species are described in the original thesis [which apparently remains unpublished]. Generally the parasite fauna is poor in the fishes of the eastern part of the Baltic Sea. The most injurious parasites are the larvae of *Contracaecum aduncum* which cause shrinkage of the parasitized liver of cod. Intensive infection caused the weight of the liver to drop from 175 gm. to 5 gm. and may lower the weight of the fish by 25%. It is remarkable that plerocercoids of *Diphylllobothrium latum* are extremely rare. Metacercariae of *Opisthorchis felineus* were not found. Fishes of the same species but living in different ecological conditions often have different parasites. The results of the study of the fish parasites elucidate their feeding habits, their ways of migration and the ways of their distribution during geological periods. Seven species of Mediterranean parasitic worms were found in the basin of the West Dvina, but are unknown in other basins of the "Neva region". G.W.

839—Türk İjiyen ve Tecrübi Biyoloji Dergisi.

a. BERKE, Z. & BERKIN, T., 1950.—"Bilharzia hastalığı hakkında." 10 (1), 145–167. [English summary p. 166.]

(839a) Schistosomiasis is not endemic in Turkey. The few cases seen in that country have come from Syria or Iraq. The only molluscs resembling *Bulinus* were found at Suruç, and these were considered to be uninfected as the region was free from human infections. R.T.L.

840—Türk Tıp Cemiyeti Mecmuası. (Bulletins de la Société Turque de Médecine.)

a. ATAKAM, A. M., 1950.—"Kalsifiye sol böbrek hydatik kisti." 16 (11), 575–577. [Summaries in Appendix in English p. 53, and in Annexe Française pp. 54–55.]

841—Türk Veteriner Hekimleri Derneği Dergisi.

- a. PEKER, H. M., 1950.—"Kozan ilçesinin Alpınar köyünde çıkan *Fasciola gigantica* dan mütevellit distomatose hastalığı ve avlothane ile tedavisi." 20 (43/44), 167–170.
- b. TİNAZ, A. & KURTPINAR, H., 1950.—"Karacabey harası tavuklarında *Acuaria* (*Cheilospiroira*) *hamulosa* (Diesing, 1857) ve *Subulura differens* (Sonsino, 1890) in mevcudiyeti." 20 (45/46), 202–206. [English summary p. 205.]
- c. KURTPINAR, H., ANTEPLIOĞLU, H. & ERGÜN, H., 1950.—"Phenothiazine ve cuprum sulfuricum'un koyun ve keçi nematode'larına karşı anthelmintic tesirleri üzerinde mukayeseli tecrübe." 20 (47/48), 255–264. [English summary p. 263.]

(841b) *Subulura differens* and *Acuaria* (*Cheilospiroira*) *hamulosa* are recorded from chickens in Turkey for the first time. R.T.L.

(841c) From a comparison of the effect of standard doses of phenothiazine and of copper sulphate in removing gastro-intestinal helminths from sheep, it was concluded that phenothiazine is the more efficient. R.T.L.

842—Uspekhi Sovremennoi Biologii.

- a. KIRSHENBLAT, Y. D., 1950.—[Localization of parasites in hosts.] 29 (2), 284–300. [In Russian.]

(842a) Kirshenblat deals with the localization of various helminths in animals. Depending on the phase of the life-cycle which the parasites undergo in the host, he differentiates the following forms of temporary localization: (i) penetrative (larvae of hookworm in the skin of mammals); (ii) transitory (*Fasciola hepatica* in the body-cavity); (iii) formative (cysticercoids in the body-cavity of insects and mites); (iv) reproductive (*F. hepatica* in the liver of mammals and in the liver of the snail). C.R.

843—Verhandlungen der Deutschen Zoologen.

- a. GÖNNERT, R., 1950.—“Zur Frage der Eibildung bei Trematoden (*Bilharzia mansoni*).” Year 1949, pp. 132–135.
b. WUNDER, W., 1950.—“Wundheilung, Regeneration und Parasitenabwehr bei Fischen.” Year 1949, pp. 135–137.

(843a) Gönnert's researches on egg-formation in *Schistosoma mansoni* have shown that the form of the ootype alone conditions the form of the egg and that the oocyte is not concerned either with this or with shell-formation. The secretion of the ootype epithelium plays an important part in shell-formation. It is considered that the Mehlis' glands produce a secretion which has a primary lubricating function. These findings for *S. mansoni* have been confirmed in preliminary experiments with *S. japonicum*. A.E.F.

(843b) Wunder describes a case where regeneration of a carp's gills which was in progress after an infection with *Dactylogyrus*, was disturbed by a second infection with the same parasite. This led to doubling and trebling of the ends of the gills. Wunder points out that when fish are feeding and growing they are usually able to ward off parasitic infections and he emphasizes the importance, especially in winter, of adequate care and feeding of carp. A.E.F.

844—Veterinarski Glasnik. Belgrade.

- a. DELAK, M., 1950.—“Prilog poznavanju djelovanja hexylresorcinola kao endoparazitika kod pasa.” 4 (1), 15–29. [German summary pp. 28–29.]
b. BENKO, V. & ZUKOVIĆ, M., 1950.—“Kako da veterinari na terenu lako dodju do determinacije entoparazita (helmintha i akara) domaće peradi?” 4 (6/7), 349–356.
c. DELAK, M., 1950.—“Fluorove soli kao anthelmintika.” 4 (11/12), 634–638.

(844a) Delak used hexylresorcinol as an anthelmintic in dogs infested with ascarids, hookworms and whipworms. The dogs were fasted 12 hours before and 24 hours after dosing with 0.1 gm. of hexylresorcinol per kg. body-weight, either as a pure substance or mixed as a 20% solution in olive oil. Better results were obtained when the drug was administered as a pure substance but there was danger of injury to the mucous membranes. When used in olive oil the treatment gave good results when repeated after seven days. There are four tables included in the paper giving the data on the efficacy of the drug. C.R.

(844b) In this paper the authors give a key for the identification of various helminths and acarines found in poultry. C.R.

(844c) Delak recommends sodium fluoride as an anthelmintic against *Ascaris* in pigs at a dose rate of 0.75%–1% as a mixture given daily in dry food or 0.15 gm. per kg. body-weight. It may be given to pigs either individually or in a group, and if necessary the treatment can be repeated after a short interval. C.R.

845—Vie et Milieu. Paris.

- a. IHM, P., 1950.—“Infestation par des métacercaires et variation de la coquille chez *Littorina neritoides* Linné.” 1 (3), 279-283.
- b. DOLLFUS, R. P., 1950.—“*Brachylaemus* (Trematoda Digenea) chez un *Lacerta*, hôte accidentel.” 1 (3), 284-286.
- c. DOLLFUS, R. P., 1950.—“Présence de *Tritaphros retzii* Einar Lönnberg 1889 (Cestoda Tetraphyllidea) en Méditerranée.” 1 (3), 287-288.
- d. DOLLFUS, R. P., 1950.—“Cysticercoïdes d'un *Hymenolepis* chez un Orthoptère cavernicole.” 1 (3), 289-296.
- e. DEBOUTTEVILLE, C. D., 1950.—“*Udonella caligorum* Johnston (1835), trématode monogénétique, phorétique du copépode *Caligus minimus* Otto.” 1 (3), 362-363.

(845a) From a study of 453 *Littorina neritoides* collected near Dinard, Brittany, and infested with metacercariae, Ihm concludes that the presence of metacercariae has no significant influence on the rate of growth of the shell. P.M.B.

(845b) Dollfus describes and illustrates an immature and unidentifiable *Brachylaemus* sp. of which five specimens were found in *Lacerta lepida*. It is assumed that a gasteropod infected with metacercariae had been accidentally ingested. P.M.B.

(845c) The first occurrence of *Tritaphros retzii* in the Mediterranean region is recorded from *Raja clavata* at Banyuls-sur-Mer, Pyrénées-Orientales, France. The scolex is illustrated. P.M.B.

(845d) Cysticercoïdes of *Hymenolepis microstoma* with a long caudal appendage were found in *Dolichopoda linderi* in a cave at La Preste, Pyrénées-Orientales, France. This is a new host record. P.M.B.

(845e) Deboutteville reports the finding of *Udonella caligorum* on the copepod *Caligus minimus* parasitic in the mouth of *Labrax lupus* near Banyuls, Pyrénées-Orientales, France. P.M.B.

846—Virginia Journal of Science.

- †a. ANDREWS, F. S., 1950.—“Resistance of lima beans to nematodes at Walkerton, Va., 1949.” New Series, 1 (4), 332.
- †b. HENDERSON, R. G., 1950.—“Stem nematode—the cause of a new alfalfa disease in Virginia.” New Series, 1 (4), 333.
- †c. MILLER, L. I., 1950.—“The effect of nematocide and fungicide soil treatments on root-knot, pod rot, nodulation, and yield of peanuts.” New Series, 1 (4), 334.

(846a) Andrews found that the “Henderson” variety of lima bean was more susceptible to nematode galling [presumably *Meloidogyne* sp.] than various other more resistant selections. Reports from other areas indicate that some selections may be resistant to certain species of the nematode but not to others. J.B.G.

(846b) Henderson reports observations made on some new nematode resistant selections of alfalfa. Nevada selections were healthier than standard susceptible varieties but showed differences in health. The killing of plants was the combined result of *Ditylenchus dipsaci* and fungi. Plants left on the plots after two years' growth are being used for further selection, propagation and testing. J.B.G.

(846c) Of 11 chemical treatments of peanut soil to control root-knot eelworm and *Sclerotium rolfsii*, only ethylene dibromide effectively controlled root-knot (the fungus did not develop in the area). Miller found that peanuts from soil treated with this fumigant produced more vines and nuts and larger roots with larger [bacterial] nodules on the tap root. B.G.P.

† Abstract of paper presented at the 28th Annual Meeting of the Virginia Academy of Sciences, Roanoke, Va., May 11-13, 1950.

847—Vojenské Zdravotnické Listy.

- a. ANON., 1950.—“Panelmint K a allegan jako anthelmintika proti mehovcům a škrkavkám.” 19 (11/12), 286–290.

(847a) The authors used panelmint K ($C_4H_4O_6K.SbO$)₂ + AsO₃, allegan (sodium paraminophenylglycolarsenate), and arsenic in comparative trials against strongyles and ascarids in horses. Panelmint K was given to adult horses at the dose rate of two tablets (3 gm. each) morning and evening for five days, to foals up to six months old one tablet in the morning only, and to foals from six months to one year old one tablet in the morning and one in the evening. After five days' treatment some horses showed a very slight reduction in the numbers of strongyle and ascarid eggs in the faeces. Horses treated with allegan in the course of 4 days' treatment received 15 tablets (3½ daily). All the horses showed a great reduction in the number of strongyle eggs and ascarid eggs disappeared after treatment. The third group of horses received arsenical treatment [the dose was not given but was probably a tonic dose]. This had no effect on the egg output of strongyles but the ascarid eggs disappeared.

C.R.

848—Wiener Klinische Wochenschrift.

- a. ROCKENSCHAUB, A., 1950.—“Zur Frage der Oxyuren in operativ entfernten Appendices.” 62 (8), 140–141.

(848a) Rockenschaub has examined surgically removed appendixes by cutting them open, washing out the contents into a petri dish and studying them against a dark background. Of 83 appendixes from children (up to 14 years of age) 20 (24%) were infected with Enterobius: of 117 adults, 27 (23%) were infected. Since appendicectomy has led to the disappearance of boring pains caused by Enterobius the author feels that the removal of the appendix when Enterobius has been found in the stool is probably justified. A.E.F.

849—Wiener Medizinische Wochenschrift.

- a. PRINZ, H., 1950.—“Zur Behandlung der Oxyuriasis.” 100 (21/22), 394–395.

(849a) In this brief note Prinz claims successful administration of “Santoperonin” (a copper oxide naphthalene phenolate, without santonin) in the treatment of Enterobius infection. The dosage for children was 3 tablets of 0.01 [gm.] 3 times a day for 5–8 days; for adults, 3 tablets of 0.03 [gm.] 3 times daily for 5–8 days. In all cases treatment was repeated after 5–6 weeks. No details of results are given but the drug is said to be efficacious and was well tolerated: it was also successful against Ascaris.

A.E.F.

850—Wisconsin Medical Journal.

- a. CUMMINGS, E. F., 1950.—“Infection caused by *Schistosoma haematobium*. Report of 2 cases.” 49 (12), 1114–1116.

851—Year Book. Institute of Inspectors of Stock of New South Wales.

- a. JONES, T. R., 1950.—“Case reports—sheep. 2. Suggested toxæmic jaundice followed repeated drenching with bluestone and nicotine. 3. Entero-toxaemia and hair worm infestation.” Year 1950, pp. 45–46.
b. HARDING, W. B., 1950.—“Mortality in adult cattle due to paramphistomes.” Year 1950, pp. 87–89.
c. HART, L., 1950.—“Poultry diseases. Some important points—with special reference to avian tuberculosis and its differential diagnosis.” Year 1950, pp. 91, 93, 95.

(851a) In a flock of 550 sheep which had been drenched monthly for seven months with a bluestone-nicotine preparation, there were ten deaths ascribed to haemonchosis but in two of the cases the cause of death proved at post-mortem to be toxæmic jaundice. An outbreak of entero-toxaemia in 1,200 crossbred weaners was steadied by vaccine but

the fatalities, although diminished, did not cease until the flock had been drenched with phenothiazine. It is suggested that a moderate to heavy infection with trichostrongyles can impair immunity to entero-toxaemia.

R.T.L.

(851b) Infection of cattle with paramphistomes in the Casino district on the coastal belt of New South Wales is frequent. The immature flukes are responsible for mortality in young animals but seldom in adult cattle. Details are given of a herd in which 15 out of 45 adult animals and 8 out of 23 young animals died from massive infections of immature amphistomes.

R.T.L.

(851c) *Raillietina echinobothrida* is mentioned among the poultry diseases observed by Hart in New South Wales. It produces nodules in the walls of the intestines and caeca in young birds, but they rarely cause death. Microscopical differentiation from tuberculosis is uncertain.

R.T.L.

852—Yokohama Medical Bulletin.

- a. MATSUSAKI, G., 1950.—“Studies on the life history of the hookworm. Part VI: On the development of *Ancylostoma caninum* in the normal host.” 1 (2), 111–120.

(852a) The migration and development of *Ancylostoma caninum* larvae have been studied by a simple technique based on the incubation for 3–4 hours at 38°C. of the gut wall, lungs, liver and other organs of experimentally infected animals, in sodium bicarbonate solution. When 10% antiformin solution is added the sodium bicarbonate solution clears and the larvae can be seen distinctly. The gut wall is then cut into small pieces, soaked in artificial gastric juice and incubated for 24 hours at 38°C. The tissues then become so frail that they are easily crumbled through a fine wire mesh. The addition of 20% antiformin solution enables the larvae to be counted. By this method 52% to 97% of the larvae could be isolated from the alimentary canal 8 hours to 15 days after oral infection and development to the adult stage takes place in the intestine of the normal host without any migration to other organs. No development was recognizable in the larvae found in the lungs. Migration through the lungs is therefore not the normal course after oral infection and occurs only after skin infection in the normal host. After oral infection in abnormal hosts the infective larvae migrate into the muscles after passing through the lungs but after skin infection they pass directly into the muscles. [This report was published in Japanese in *Keio Igaku*, 19, in 1939.]

R.T.L.

853—Zeitschrift für Ärztliche Fortbildung.

- a. KLEINSORGE, H., 1950.—“Zur Diagnostik des Lungenechinococcus.” 44 (7/8), 188–191.
b. KLOSA, J., 1950.—“Über neuere Oxyurenmittel.” 44 (17/18), 473–475, 478.

(853b) Benzene hexachloride is recommended for the treatment of *Enterobius* infection. For adults the dosage is 30–50 mg. and for children 10–20 mg. given on three successive days and repeated after four or five days if necessary.

R.T.L.

854—Zeitschrift für Angewandte Entomologie.

- a. TISCHLER, W., 1950.—“Die Überwinterungsverhältnisse der landwirtschaftlichen Schädlinge.” 32 (2), 184–194.

(854a) Tischler's paper is mainly concerned with the overwintering of insect pests in fields and grasslands but mention is made of the fact that certain plant nematodes (*Ditylenchus dipsaci*, *Heterodera marioni*, *H. major*, *H. rostochiensis* and *H. schachtii*) survive in the soil. One of the best means of combating these parasites is rotation of crops.

A.E.F.

855—Zeitschrift für Haut- und Geschlechts-Krankheiten.

- a. HIERONYMI, 1950.—“Wandernde Metazoenlarven als Ursache von Dermatiden beim Menschen und Tiere.” 9 (8), 355-356.

(855a) Among the metazoan larvae which may cause dermatitis in man and animals, those of hookworms and schistosomes are mentioned. P.M.B.

856—Zeitschrift für Infektionskrankheiten, Parasitäre Krankheiten und Hygiene der Haustiere.

- a. SCHMIDT, B. & WIELAND, F., 1950.—“Beitrag zur Frage des Wurmeiergehaltes von Abwässern und Klärschlamm. (Experimentelle Untersuchungen in der Kläranlage der Stadt Stuttgart.)” 130 (6), 603-612.

(856a) Schmidt & Wieland have examined the effluent and clarified sludge at the Stuttgart sewage works for helminth ova during the period 1st April to 30th August 1948. The total ova per litre rose from 24 to 75 by the beginning of August and then fell to 33. All the eggs were *Ascaris lumbricoides* with the exception of a few *Trichuris trichiura*. Samples taken from the sewage works showed that 80% of the eggs were destroyed in the settling tanks: by the time the final effluent is discharged 97.5% of the eggs have been eliminated. It is concluded that transmission of helminth ova to man via a modern sewage works is impossible. No ova were found in sludge left for six to seven weeks in the heated tanks or for nine to ten weeks in unheated tanks. Transmission of eggs to man by treated sludge used as manure is therefore excluded. A.E.F.

857—Zeitschrift für Parasitenkunde.

- a. OELKERS, H. A., 1950.—“Untersuchungen an Oxyureneiern.” 14 (6), 574-581.

(857a) Oelkers' experiments show that immature *Enterobius vermicularis* ova do not survive more than two to three days at room temperature: at low temperatures (+2°C. to -8°C.) and high humidity they live for several weeks. Mature ova, on the other hand, survive for several weeks at room temperature. They will live for 20 hours at -20°C. to -22°C. and for two hours at +50°C.: at 53°C. they die in a few minutes. *Enterobius* ova are very resistant to the commonly used antiseptics. *Enterobius* larvae also are resistant to temperature changes, osmotic influences and antiseptics. The proteolytic enzyme “Nematolyt” had no effect on either larvae or ova. A.E.F.

858—Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz.

- a. RADEMACHER, B., 1950.—“Auftreten und Bekämpfung des Weizenälchens (*Anguina tritici* Steinb.) beim Dinkel (*Triticum spelta*) im Zusammenhang mit der Federbuschsporenkrankheit (*Dilophospora graminis* Desm.) und einer Bakteriose.” 57 (9/10), 334-343.

(858a) Rademacher deals with attacks by the wheat gall eelworm, *Anguina tritici*, on spelt in Württemberg which were accompanied by the fungus *Dilophospora graminis* Desm. He points out that the separation of the galls from sound grain is not so easy in the case of spelt as in wheat because of the irregular shape of the galls. As a method of control he recommends a warm-water steep of 4 hours at 30°C. or for 30 minutes at 53-54°C. T.G.

859—Zentralblatt für Bakteriologie. Abteilung 1. Originale.

- a. SCHMIDT, J., MENDHEIM, H. & HANNAK, J., 1950.—“Epidemiologische Untersuchungen über die Verbreitung von Wurmeiern in Erziehungsanstalten.” 156 (2), 156-160.

(859a) In various educational establishments Schmidt *et al.* detected larger numbers of *Enterobius* ova in dust by microscopical examination of a strip of cellophane tape applied to a dust sample, than by using Schüffner's method. P.M.B.

860—Zoologica. New York.

- a. KUNS, M. L. & RAUSCH, R., 1950.—“An ecological study of helminths of some Wyoming voles (*Microtus* spp.) with a description of a new species of *Nematospiroides* (Heligmosomidae: Nematoda).” 35 (3), 181-188.

(860a) During an ecological study of the helminths of four species of voles of the genus *Microtus* collected in the Jackson Hole region of Wyoming, the species collected were *Quinqueserialis hassalli*, *Andrya primordialis*, *A. macrocephala*, *Paranoplocephala infrequens*, *P. variabilis*, *P. borealis*, *Heligmosomum costellatum*, *Syphacia obvelata*, *Trichuris opaca*, *Hymenolepis horrida* and *Nematospiroides microti* n.sp. This new species, which occurred in *Microtus montanus nanus* and *M. richardsoni macropus*, is readily distinguished from other members of the genus by the elongated lateral and externo-dorsal rays of the bursa. The incidence of the various species collected from voles in wet meadows and in alpine meadows is separately tabulated. *Hymenolepis horrida* and *Heligmosomum costellatum* are reported from North America for the first time.

R.T.L.

861—Zoologica Poloniae.

- a. JANISZEWSKA, J., 1950.—“*Biacetabulum sieboldi* Szidat est-elle la forme adulte d'*Archigetes sieboldi* Leuck.?” 5 (6), 57-65. [Polish summary p. 57.]
- b. JANISZEWSKA, J., 1950.—“*Paraglaridacris silesiacus* n.g., n.sp. de la famille Caryophyllaeidae. Note préliminaire.” 5 (7), 67-72. [Polish summary p. 67.]

(861a) Janiszewska has analysed the characters which he considers are sufficiently pronounced to differentiate the larvae, *Archigetes appendiculatus* Mrázek nec Ratzel and *A. sieboldi* Leuckart, as separate species, viz., the form of the vitelline gland, size of the ovary, structure of the uterus, species of the host, localisation in the host and the mode of oviposition. *A. appendiculatus* and *Caryophyllaeus appendiculatus* Ratzel are not synonymous. The name *Biacetabulum appendiculatum* (Szidat), in place of *B. sieboldi* Szidat, is proposed for the adult form described by the author from *Barbus barbus* and by Szidat from *Tinca tinca*, as Janiszewska is now convinced that these specimens represented the adult form of *A. appendiculatus* and not that of *A. sieboldi*; the adult of this latter species remains unknown. There are thus four species of *Archigetes*, *A. sieboldi*, *A. appendiculatus*, *A. brachyurus* and *A. cryptobothrius*.

P.M.B.

(861b) Janiszewska describes and figures a cestode provisionally named *Paraglaridacris silesiacus* n.g., n.sp., of which a single specimen was recovered from *Abramis brama*. The new genus appears to occupy a systematic position between *Glaridacris* and *Brachyurus*. From the former it differs in lacking post-ovarian vitelline cells, in the smaller number of bothridia (probably four), and from the latter in the form of the vitelline glands and the structure of the head.

P.M.B.

862—Zoologische Jahrbücher. Abteilung für Systematik, Ökologie und Geographie der Tiere.

- a. SACHS, H., 1950.—“Die Nematodenfauna der Rinderexkremente. Eine ökologisch-systematische Studie.” 79 (3), 209-272.

(862a) Sachs has made a detailed study of the free-living nematodes recovered from cow dung under field conditions. In all 51 species were found which are divided into three ecological groups: (i) those occurring very frequently (22 species); (ii) those occurring with average frequency (10 species); (iii) rare species (19 species). Fourteen species of group (i), seven of group (ii) and 17 of group (iii) collected from soil could be cultured in sterile cow dung; the remaining species had been transported to the dung by beetles. Sachs also examined 2,642 dung beetles, belonging to 27 species, and recovered 40 of the nematode species. The relationship between nematodes and beetles is discussed in detail and the way in which nematodes are transported is described. The nematodes play no part in

decomposing cow dung though they are important as food for the insects and mites which do this work. The presence of many of the nematodes in cow dung depends on seasonal influences which have not yet been fully explained. In the systematic part of his paper Sachs gives a new diagnosis of Anguillulidae and divides it into four subfamilies: Bunonematinae (containing *Bunonema*); Rhabditinae (*Rhabditis*, *Poikilolaimus*, *Diploscapter*); Anguillulinae (*Tricephalobus*, *Brevibucca*, *Macrolaimus*, *Cheilobus*, *Myolaimus*, *Panagrellus*, *Anguillula*, *Panagrolaimus*, *Neocephalobus*, *Panagrodontus*, *Plechtonchus*); and Cephalobinae (*Teratocephalus*, *Chambersiella*, *Acrobeles*, *Cephalobus*). The following new forms are described: *Rhabditis neuhausi* n.sp., *R. kolbi* n.sp., *R. tretzeli* n.sp., *R. voelki* n.sp., *R. hartmanni* n.sp., *Cheilobus aphodii* n.sp., *Diplogaster henrichae* n.sp., *D. hirschmannae* n.sp., *D. schwemmleri* n.sp., *D. stresemanni* n.sp., *D. zurstrasseni* n.sp., *D. erlangensis* n.sp., *Tylopharynx foetidus* n.comb. for *Aphelenchus foetidus* Bütschli, 1874.

A.E.F.

863—Zoologischer Anzeiger.

- a. PAX, F. & SOÓS, A., 1950.—"Nematoden aus mitteleuropäischen Mineralquellen." 145 (5/6), 92–100.
- b. ALLGÉN, C. A., 1950.—"Letzter Bericht über freilebende marine Nematoden von der Campbellinsel." 145 (11/12), 309–316.
- c. GERLACH, S. A., 1950.—"Über einige Nematoden aus der Familie der Desmodoriden." 145, Suppl. pp. 178–198.
- d. HAFFNER, K. VON, 1950.—"Organisation und systematische Stellung der Acanthocephalen." 145, Suppl. pp. 243–274.
- e. SCHAEFER, K., 1950.—"Nematodenlarven in der Magenwandung eines Molches." 145, Suppl. pp. 840–853.

(863a) Pax & Soós examined samples of waters, taken from a number of thermal and mineral springs in Central Europe, for nematodes. Those found are named and classified. Particulars are given as to site, temperature and salinity in each case. T.G.

(863b) From samples of mud, collected at Campbell Island in the South Pacific Ocean, Allgén obtained a number of marine nematodes which he lists in this paper. No new species were found. T.G.

(863c) *Desmodora schulzi* n.sp., *Leptonemella aphanothecae* n.sp., *L. gorgo* n.sp., *Onyx sagittarius* n.sp. and the little known species *Desmodorella cephalata*, *Spirina laevis* and *Aegialospirina bibulbosa* are described and figured from the coast near Kiel. A key differentiates the two new species of *Leptonemella* from *L. cincta*. A note on the anterior end of Desmodoridae is appended. R.T.L.

(863d) From a comparative study of the Acanthocephala, Priapulidae and Rotatoria, von Haffner concludes that the Acanthocephala undoubtedly belong to the Nemathelminthes and are related to the Rotatoria. R.T.L.

(863e) Schaefer describes and illustrates the histopathological reactions to an unidentifiable nematode larva present in the mucosa of the gut of a newt, *Triturus cristatus*. R.T.L.

864—Zooprofilassi.

- a. CASAROSA, L., 1950.—"La acuariosi (o disfaragosi) dei polli. Nota I. Contributo alla conoscenza dei parassiti." 5 (6), 275–276, 279–282, 285–290. [French summary p. 289.]
- b. FONTANELLI, E., 1950.—"Azione terapeutica dell'acido ciclo-esano-carbossilico combinato col bismuto nelle oxyuriosi degli equini." 5 (6), 301–304.
- c. CASAROSA, L., 1950.—"La acuariosi (o disfaragosi) dei polli. Nota II. Contributo anatomo-istopatologico." 5 (7), 330, 333–343. [French summary p. 343.]

(864a) Acuariasis of poultry is widely distributed in Italy. It is common in Emilia, Toscana, Lazio and Sicily and is especially frequent in the region of Pisa, Leghorn, Florence and Grosseto. Brief descriptions are given of *Cheilospirura hamulosa* and *Dispharynx nasuta*. R.T.L.

(864b) Fontanelli tested in equine oxyuriasis the compound bismuth cyclo-hexane carboxylate which has been used in human enterobiasis. He found that relapse occurred after single doses, and recommends the use of rectal suppositories containing 1.0-1.5 gm. of active substance, one to be administered every three days and repeated 10 times. E.M.S.

(864c) In Italy acuariasis is a severe and widespread disease of poultry. The macroscopical and microscopical lesions in the musculature of the stomach are described. There are two types, one nodular, the other necrotic. Death is due to the complete inhibition of the specific function of the gizzard.

R.T.L.

NON-PERIODICAL LITERATURE

865—AFRICAN REGIONAL SCIENTIFIC CONFERENCE, JOHANNESBURG, October 17-29, 1949.

- a. ORTLEPP, R. J., [1950].—"Helminthology in relation to animal industry in the Union of South Africa." Vol. II, pp. 257-260. [French summary pp. 257-258.]
- b. DE MEILLON, B., [1950].—"Human vector-borne diseases of Africa." Vol. II, pp. 296-300. [French summary pp. 296-297.]
- c. ANNECKE, S., [1950].—"Tropical disease and human welfare in Africa." Vol. II, pp. 321-324. [French summary p. 321.]

(865a) The most common helminths of livestock in South Africa are *Fasciola* spp., paramphistomes, *Schistosoma* spp., *Taenia* spp., *Moniezia* spp., *Haemonchus*, *Trichostrongylus* spp., hookworms and *Oesophagostomum* spp. Insufficient information regarding the intermediate hosts and the incidence of infection (particularly in the case of schistosomes) has resulted in very inadequate control measures. In many instances the specific identification of the helminth is in doubt. *Bulinus* spp. have, surprisingly, been found very refractive to infection with schistosome miracidia. *Limnaea* spp. are the principal vectors of *Fasciola* spp.; the author has never found *Physopsis* or *Bulinus* infected either naturally or experimentally. Meat inspection is limited to the larger slaughterhouses; condemnation of bovine carcasses infected with cysticerci is as high as 15% at some abattoirs and averages 3%-4%. Ortlepp outlines the most urgent problems requiring investigation and draws attention to the lack of knowledge regarding the role of wild animals as reservoir hosts.

P.M.B.

(865b) De Meillon draws attention to the fact that the African vectors of *Wuchereria bancrofti*, *Loa loa*, *Onchocerca volvulus* and *Acanthocheilonema perstans* are more widespread than are the diseases. With reference to schistosomiasis it is noted that the identification of molluscan species by shell characters is unreliable. In an ecological investigation in a small area of South Africa it was found that the distribution of terrestrial and aquatic vegetation had little or no effect on the prevalence of *Physopsis africana*.

P.M.B.

*866—BLAISDELL, K. F., 1950.—"A study of the biology of the cat lungworm *Aelurostrongylus abstrusus* (Railliet, 1898) Cameron, 1927." Thesis, Cornell University, 84 pp.

867—BONHAM, K., 1950.—"Some monogenetic trematodes of Puget Sound fishes." In: Hatch, M. H., "Studies honoring Trevor Kincaid". Seattle: University of Washington Press, pp. 85-103.

Bonham presents the morphology and statistical treatment of the dimensions of the haptor hooks of three gill parasites, *Squalonchocotyle abbreviata* from *Squalus suckleyi*, *Squalonchocotyle grisea* from *Hexanchus goiseus*, and *Rajonchocotyle batis* from *Raja binoculata*, showing that previously described species are within the range of variability of

the Puget Sound specimens. The hooks of the anterior, middle and posterior haptoralsuckers of one side of an individual onchocotyloid worm differed significantly. The most constant hook dimension tested was the axial length of the prong whose coefficient of variation averaged about 7 per cent. Certain measurements are given for a series of 12 specimens of *Merizocotyle pugetensis* from *Raja binoculata* and 9 *Microcotyle chiri* Goto from *Chirocentrus decagrammus*. The description of *Megalocotyle marginata* from various species of *Sebastes* is augmented. *Octobothrium leptogaster* and *Microcotyle* sp. are noted on the gills respectively of *Hydrolagus collieri* and *Radulinus asprellus*. The adults and larvae of all species except *Microcotyle* sp., and the location of the larval hooks on the adult haptor of *Megalocotyle* are illustrated.

P.M.B.

868—BONILLA-NAAR, A., 1950.—“Historia de la medicina tropical, parasitología e higiene en Colombia. Referencias bibliográficas (1526–1944).” Bogota : 168 pp.

*869—CABLE, R. M., 1950.—“An illustrated laboratory manual of parasitology.” Minneapolis : Burgess Publishing Co., viii + 152 pp. [Revised edition.]

870—CAMPENET, M., 1950.—“Biologie et rôle pathogène d'*Haemonchus contortus*.” Thesis, Alfort, 62 pp.

Campenet cites various well-known writers in support of the opinion that *Haemonchus contortus* is one of the most important helminth infections of sheep in temperate and tropical countries. Successive chapters briefly review (i) its morphology, systematics, synonymy, habitat, hosts and geographical position; (ii) the ova, their numeration, the effect on them of temperature, sunshine, dryness, humidity and lack of oxygen, their morphology, isolation, cultivation and the factors affecting survival of larvae outside and within the host; (iii) the effects on the host's blood, metabolism and enzymes and the relevant pathological lesions; (iv) the reaction of the host, the nature of acquired resistance and immunity; (v) diagnosis based on symptoms, faeces examination, the detecting of protein in the serum of the infected animal and allergy. The bibliography contains 46 titles.

R.T.L.

871—CAULLERY, M., 1950.—“Le parasitisme et la symbiose.” Paris : Gaston Doin & Cie, 2nd edit., 358 pp.

872—CHRISTIE, J. R., 1950.—“Soil fumigation for control of nematodes and other soil-inhabiting organisms.” Beltsville, Md.: U.S. Department of Agriculture, Bureau of Plant Industry, Soils, and Agricultural Engineering, 22 pp. [Revision of 1948 edition.]

873—COUTURIER, A., 1950.—“Observations préliminaires sur la biologie d'un nématode (Mermithidae) parasite de la larve du hanneton commun (*Melolontha melolontha* L.).” International Congress of Entomology, 8th (1950), Stockholm. Proceedings, pp. 637–639.

Couturier describes briefly a mermithid from the larva of *Melolontha melolontha*, which causes serious destruction of vegetation in the Saône valley, France. The nematode larvae leave their hosts during October and remain in the soil where they do not feed. In the laboratory they were kept in moist sand at a temperature of 15°C. to 16°C. The larvae undergo one moult and become adult 30–40 days after leaving the host. The males are rarely more than 100 mm. long and have rather short spicules; the females are sometimes over 300 mm. long and have a small papilla at the same level as the spicules in the male; the vagina is an elongated S-shape. Oviposition begins three months after the final moult and at 17°C. to 20°C. development takes more than two months. On hatching the larvae measure 300μ–350μ in length and 10μ in diameter. Couturier is of the opinion that the cockchafer larvae become infected in the soil during ecdysis.

S.W.

874—CRAPLET, C., 1950.—“Maladies du mouton et de la chèvre.” Paris: Vigot Frères, 138 pp.

In Chapter IV, Craplet gives an account of the common internal parasites of sheep and goats, devoting 15 pages to helminths. He describes briefly the symptoms, pathology, diagnosis, prognosis and treatment of *Fasciola*, *Dicrocoelium*, cysticerciasis, coenuriasis, aeniasis, verminous broncho-pneumonia, strongylosis, *Chabertia* and *Oesophagostomum*. S.W.

*875—CURMI, A., 1950.—“Les lésions oculaires de l'onchocercose africaine.” Thesis, Algiers.

876—DELAHAYE, J., 1950.—“Contribution à l'étude de la biologie des protostrongylins, agents de pneumonies vermineuses chez les ovidés.” Thesis, Alfort, 45 pp.

This thesis is a useful summary of the differences between the three lungworms of sheep, *Protostrongylus rufescens*, *Cystocaulus ocreatus* and *Muellerius minutissimus*; it describes their development, lists their intermediate hosts and briefly deals with their migration in the definitive host, their habitat, nutrition and pathogeny. The bibliography contains 11 titles. R.T.L.

877—GAJARDO TOBAR, R., [1950].—“Epidemiología de la hidatidosis en Valparaíso y Aconcagua.” Hospital de Viña del Mar, Chile, 16 pp.

878—GIORDANO, M., 1950.—“Patologia, parassitologia ed igiene dei paesi caldi.” Rocca San Casciano: Cappelli, 3rd edit., Vol. I, pp. xxiv + 1-812; Vol. II, pp. 813-1627.

879—HALLER, K., 1950.—“Behandlung und Beurteilung der mit dem kleinen Leberegel befallenen Schafebern in der Fleischschau.” Dissertation, Munich, 27 pp.

The incidence of *Dicrocoelium dendriticum* in sheep in Germany varies greatly according to district (from 0.2% in Cologne and 5.0% in Munich to 100% in Constance and Trier and 90% at Göppingen): incidence appears to be highest in chalky areas of southern Germany. Haller has collected data from slaughterhouses which shows that practice with regard to infected sheep's livers varies: in some all infected livers are destroyed, in others lightly infected livers are treated either by soaking in water for up to half an hour or by boiling for the same period, and then sold cheaply, heavily infected livers being destroyed. As a result of his examinations of 300 infected livers, Haller concludes that all should be condemned as unfit for human consumption. A.E.F.

*880—JENSEN, H. J., 1950.—“The biology and morphology of the root lesion nematode parasitic on walnuts in California.” Thesis, University of California.

881—JOYEUX, C. & SICÉ, A., 1950.—“Précis de médecine des pays chauds.” Paris: Masson & Cie, 4th edit., viii + 1072 pp.

882—KALSHOVEN, L. G. E., 1950.—“De plagen van de cultuurgewassen in Indonesië.” The Hague: W. van Hoeve, Part I, 512 pp.

The opening chapter of this monograph on the crop pests of Indonesia is chiefly devoted to a succinct account by J. van der Vecht of the eelworms which infect plants of economic importance. Original photographs are reproduced which illustrate the damage done by *Pratylenchus pratensis* to coffee plantations in Java, and by *Rotylenchus similis* to Manila hemp (*Musca texilis*) and pepper. Gordiidae and Mermithidae also receive notice. R.T.L.

*883—KIRYANOVA, E. S., 1950.—[Collection and study of gall and other plant-infesting nematodes.] Moscow: Akademii Nauk SSSR, 46 pp. [In Russian.]

*884—KLENIN, I. I. & RODIONOV, P. S., 1950.—[Most important helminthic diseases of farm animals and results of their control in Chkalov Region.] Chkalov : Chkalovskoe Izd-vo, 37 pp. [In Russian.]

*885—KOROL, K., 1950.—“Therapeutische Versuche mit dem Hundespulwurm W.T. 124.” Dissertation, Munich, 31 pp.

*886—KORYAZHNOV, V. P., 1950.—[Trichinosis of animals and its danger to man.] Moscow: Gos. Izd-vo Selkhoz Lit-ry, 20 pp. [In Russian.]

887—LACHENSCHMID, B., 1950.—“Leitfaden der Trichinenschau.” Stuttgart : Ferdinand Enke, ix + 173 pp.

This guide to *Trichinella* inspection deals with the biology of *Trichinella spiralis*, the technique of inspection and sampling, and summarizes the relevant legislation in Germany.

R.T.L.

888—LARIZZA, P. & VENTURA, S., 1950.—“L'anemia da anchilostoma. Studio patogenetico.” Pavia : Biblioteca “Haematologica”, ix + 206 pp. [English, French, German & Spanish summaries pp. 183–190.]

After summarizing scientific opinions and hypotheses on the pathogenesis of hookworm anaemia, the cytological and humoral modifications which occur and the effects of various treatments on these are described and discussed. Globular hypochromia and hyposideremia are considered the chief characteristics of the disease. The authors favour Cruz's view that in hookworm anaemia the main factor is depletion and insufficient replacement of iron. It occurs when the body reserves of iron can no longer be made up by absorption from the food.

R.T.L.

889—LEBIED, B., 1950.—“Une nouvelle théorie endémiologique. Sur le rôle de la fonction du parasitisme x mécanisme du vol du vecteur comme facteur décisif de l'établissement du foyer de l'endémicité de l'onchocercose et de filarioses en général.” Dijon : 54 pp.

Lebied has devised a new technique for dissecting *Simulium damnosum* which facilitates the finding of developing larvae of *Onchocerca volvulus* in the thoracic muscles and also determines exactly the particular muscles infested. He found moreover that the developing larvae have a destructive action on the muscles which is due both to mechanical and toxic causes and that in consequence the normal functioning of the muscles of flight is affected adversely and the flight of the insects is restricted. The epidemiological significance of this is discussed at length and the main conclusions are that it has a limiting effect on the spread of the disease and is an important factor in its incidence in a given focus. It could explain the existence in Guatemala of plantations which are free from infection yet are in close proximity with infected plantations which are identical in all other relevant aspects. It is concluded that the spread of the disease is brought about by movements of infected people rather than of infected insects and that the general theory expounded is also applicable to questions of endemicity in other filarial infections which are transmitted by flying insects.

J.J.C.B.

890—LEHMANN, K. F. W., 1950.—“Zur Frage der Untersuchungstechnik im Sinne des §22 der AB. A. des F.G. vom 29. Oktober 1940 mit seiner Vorschrift zur Feststellung der Rinderfinne für das Erkennen finniger Rinder.” Dissertation, Hanover, 55 pp.

Lehmann emphasizes the economic importance of *Cysticercus bovis* infection in cattle and the harmful effects of *Taenia saginata* infection in man. He summarizes present knowledge on the bionomics of the parasite and gives figures for the incidence of *C. bovis* in cattle in Germany together with an analysis of predilection sites. The main purpose of the thesis, however, is to examine the (still current) 1940 Regulations governing inspection of meat for *C. bovis* and to determine whether these are adequate. Lehmann concludes that

extensive revision of the regulations is necessary if they are to fulfil their purpose of preventing the spread of infection. He emphasizes that cysticerci may be found in all the organs of adult cattle and calves and sets out in detail his proposals for more detailed examination of tongue, internal and external masseters, oesophagus, diaphragm and renal papillae and of all parts of the carcass which become exposed when the animal is cut up.

A.E.F.

*891—MEINKOTH, N. A., 1950.—“Host-parasite relations of the fowl tapeworms *Raillietina cesticillus* and *Choanotaenia infundibulum*.” Urbana: 6 pp.

892—NEPVEU, P. & RITTER, M., 1950.—“(i) Le nématode des racines (*Heterodera marioni* Cornu), parasite grave des cultures maraîchères de Vaucluse. (ii) Le nématode des feuilles de chrysanthème et de dahlia.” In: “Quelques parasites gravement nuisibles aux cultures de la basse vallée du Rhône de 1948 à 1950.” Avignon: Station Régionale de Zoologie Agricole, pp. 5-7.

Nepveu & Ritter, in the first of these semi-popular articles, give a brief account of the root-knot nematode (*Heterodera marioni*) which attacks chiefly tomato and melons in the lower Rhône valley. They describe the principal symptoms manifested by host plants and the biology of the parasite and also discuss preventive measures including treatment of the soil by fumigants. In the second very short article mention is made of the attacks of the chrysanthemum eelworm (*Aphelenchoides ritzema-bosi*) on chrysanthemum and dahlia at certain centres in the Vaucluse and the employment of modern phosphorus systemic remedies in its control.

T.G.

*893—NESHCHADIMENKO, I. P., 1950.—[Worm diseases and their control.] Smolensk: Smolenskoe Obl. Gos. Izd-vo, 23 pp. [In Russian.]

894—OELKERS, H. A., 1950.—“Pharmakologische Grundlagen der Behandlung von Wurmkrankheiten.” Leipzig: S. Hirzel, 3rd edit., xii+243 pp.

895—OGG, W. ET AL., 1950.—“Animal research.” Report of the United Kingdom Agricultural Mission to Canada, June 26 to August 25, 1950, pp. 46-62.

This report quotes the work of Moynihan & Musfeldt who showed that rats from piggeries showed a greater intensity of infection with *Trichinella spiralis* than those from rubbish tips. The research programmes of the Institute of Parasitology and of the Branch Laboratory of the Dominion Division of Animal Pathology located at Macdonald College are briefly summarized. Swales thinks he has some indication that sheep are developing phenothiazine-resistant strains of worms: he finds that when oesophagostome larvae penetrate the intestinal wall and the reaction is poor, as in weak lambs, the worms are able to complete their life-cycle whereas when the reaction is strong the parasites are killed by nodular formation, but if these nodules are in the neighbourhood of the ileo-caecal juncture some obstruction may result. *Ascaris lumbricoides* causes losses in pigs only when there is anaemia and vitamin A deficiency.

R.T.L.

*896—OSHMARIN, P. G. & OPARIN, P. G., 1950.—[The main helminthic diseases of farm animals in the Far East, and measures for controlling them.] Vladivostok. [In Russian.]

897—PAN AMERICAN SANITARY BUREAU, 1950.—“Bibliography of onchocercosis (includes selected studies to June 1945).” Washington, D.C.: Pan American Sanitary Bureau. Publication No. 242, vii+339 pp.

This comprehensive bibliography covers 1,422 titles arranged alphabetically under authors. A supplement contains 293 related references. Many of the titles are provided with abstracts in English. There is an Author Index, Subject Index in English and an alphabetical arrangement in Spanish of the English Subject Index.

R.T.L.

- *898—PANOVA, L. T., 1950.—[Manual of the veterinary surgeon.] Moscow & Leningrad : Selkhozgiz. [Helminthiases pp. 197-223.] [In Russian.]

The article on helminthiases which constitutes a part of the chapter of this Manual for Veterinary Surgeons is devoted to the "invasion" diseases (produced by animal parasites, as contrasted with infective diseases produced by bacteria and fungi). It gives condensed information concerning the most important helminths of domestic animals and furnishes descriptions of the symptoms caused by parasites, diagnosis, treatment and prophylaxis. There is a brief account of methods for the examination of faeces and organs and for the preservation of specimens.

G.W.

- 899—PLÖSSL, J., 1950.—"Die Lebensfähigkeit von Ascarideneiern unter verschiedenen Umweltsbedingungen." Dissertation, Munich, 31 pp.

Plössl's experiments with *Toxocara canis* ova lead to the conclusion that ascarid ova are not killed by long periods (up to 4 months) in sewage sludge and that the age of the sludge has no effect whatever on survival. When chloramine was added to sludge 80% of ova were destroyed: this treatment is suggested as a possible method of reducing the incidence of human ascariasis. *Toxocara canis* ova survived oxygen deprivation even when this extended over several weeks. They were killed by a temperature of 39°C. Vinegar, as used in the preparation of salads, had no effect on the ova. Plössl's work was carried out with the object of reducing the incidence of human ascariasis but he is at pains to make clear that the results of his experiments, carried out under laboratory conditions and with *Toxocara canis* ova, may not entirely correspond with those which would be obtained with *Ascaris lumbricoides* under natural conditions.

A.E.F.

- *900—PRIZENMAIER, G., 1950.—"Die Lungenwurmseuche bei den württembergischen Wanderschafherden mit Beiträgen zur biologischen und medikamentellen Bekämpfung." Dissertation, Giessen.

901—PROCEEDINGS OF THE MEETING OF THE POLISH PARASITOLOGICAL SOCIETY (2nd), Pulawy, June 10-11, 1950.

- a. RAABE, Z., 1950.—"Rola i zadania parazytologii w badaniach biocenotycznych." pp. 5-30. [Russian summary p. 115 ; English summary pp. 128-129.]
- POLUSZYŃSKI, G., 1950.—"Rola i zadania parazytologii w badaniach biocenotycznych i zadania Polskiego Towarzystwa Parazytologicznego. Koreferat." pp. 31-38. [Russian summary pp. 115-116 ; English summary p. 129.]
- c. STEFAŃSKI, W., 1950.—"Zadania parazytologii w Planie 6-cioletnim." pp. 39-48. [Russian summary p. 116 ; English summary p. 130.]
- d. MORZYCKI, J., 1950.—"Zagadnienia Parazytologii Lekarskiej w Planie 6-cioletnim." pp. 49-61. [Russian summary pp. 116-117 ; English summary p. 130.]
- e. SANDNER, H., 1950.—"Zadania parazytologii w dziedzinie ochrony roślin." pp. 63-65. [Russian summary p. 117 ; English summary p. 131.]
- f. TRAWIŃSKI, A., 1950.—"Odzwierżące choroby pasożytnicze." pp. 67-68. [Russian summary p. 117 ; English summary p. 131.]
- g. SKRYABIN, K. I., 1950.—"Zadania parazytologii radzieckiej." [Abstract.] p. 69. [Also in Russian pp. 117-118 ; and in English p. 131.]
- h. SPASSKI, A. A., 1950.—"Organizacja helmintologii radzieckiej." [Abstract.] p. 69. [Also in Russian p. 118 ; and in English p. 132.]
- i. HAY, J., 1950.—"Wągrzyca węzłów chłonnych świni." p. 78. [Russian summary p. 118 ; English summary p. 132.]
- j. PIOTROWSKI, J., 1950.—"Wągrzyca mózgu u psów." pp. 79-80. [Russian summary p. 118 ; English summary p. 132.]
- k. GAUGUSCH, Z., 1950.—"Spostrzeżenia nad oddziaływaniem standartowych solanek na włośnię mięśniowe otorbione." p. 81. [Russian summary pp. 118-119 ; English summary pp. 132-133.]
- l. HAY, J., 1950.—"Motylca u cieląt osesków." p. 82. [Russian summary p. 119 ; English summary p. 133.]
- m. PATYK, S., 1950.—"Z badań nad diagnozą hemonchozy u bydła drogą odczynu śródskórnego." p. 85. [Russian summary p. 119 ; English summary p. 134.]

- n. SZAFLARSKI, J., 1950.—"Zastosowanie próby alergicznej śródskórnopowiekowej w diagnostyce pasożytów u zwierząt." p. 86. [Russian summary p. 120; English summary p. 134.]
- o. JANISZEWSKA, J., 1950.—" *Paraglaridacris silestiacus* n.g. n.sp. z rodziny Caryophyllaeidae." pp. 93-94. [Russian summary p. 121; English summary p. 135.]
- p. JANISZEWSKA, J., 1950.—"Czy *Biacetabulum sieboldi* Szidat jest formą dojrzałą *Archipetes sieboldi* Leuck?" pp. 95-96. [Russian summary p. 121; English summary p. 135.]
- q. WYSOCKI, E. & FURMAGA, S., 1950.—"Helmintofauna lisów łownych woj. lubelskiego." pp. 97-98. [Russian summary p. 121; English summary p. 136.]
- r. KOZAR, Z., 1950.—"Badania epidemiologiczne nad owsicą (enterobiasis) w Gdansk." pp. 99-100. [Russian summary p. 121; English summary p. 136.]
- s. KOZAR, Z. & SIKORSKA, S., 1950.—"Próba masowego leczenia owsicy preparatami produkcji krajowej." pp. 101-102. [Russian summary p. 122; English summary p. 136.]
- t. ŻULIŃSKI, T., 1950.—"Rola owsików przy zapaleniu wyrostka robaczkowego." p. 103. [Russian summary p. 122; English summary p. 136.]
- u. DOBROWOLSKA, D. & GRABDA, E., 1950.—"Cykl roczny wydalania jaj nicieni u koni." p. 107. [Russian summary p. 123; English summary pp. 137-138.]
- v. JANICKI, M., KONOPACKA, Z. & DYMOWSKA, E., 1950.—"Robaki i pierwotniki przewodu pokarmowego ludności miasta Warszawy w latach 1940-1944." p. 108. [Russian summary p. 123; English summary p. 137.]

(901f) [A fuller account of this paper appears in *Méd. vét., Varsovie*, 1950, 6, 456-458. For abstract see *Helm. Abs.*, 19, No. 362f.]

(901i) Cysticerciasis of the lymph glands in pigs is described. As many as seven well developed cysts were present in a single gland and especially favoured were the glands of the thoracic and abdominal cavities as well as those of the head and neck. R.T.L.

(901j) *Cysticercus cellulosae* was found in the cerebrum in five out of 1,548 dogs which showed symptoms resembling rabies. One of the dogs suffered from rabies also. R.T.L.

(901k) *Trichinella* cysts in pig meat pickled in brine retain their full vitality and the larvae can develop into the intestinal form when fed to mice, provided the flesh contains not more than 9.9% to 10.1% of sodium chloride and the duration of pickling does not exceed 43 days. R.T.L.

(901l) Mature *Fasciola hepatica* containing eggs were found in 18 calves under three weeks old. R.T.L.

(901m) Early intradermal reaction is regarded by Patyk as a specific diagnostic test for *Haemonchus contortus* infection in cattle. R.T.L.

(901n) [A fuller account of this paper appears in *Méd. vét., Varsovie*, 1950, 6, 585-589. For abstract see *Helm. Abs.*, 19, No. 362i.]

(901o) [For abstract of fuller account of this paper see No. 861b above.]

(901p) [For abstract of fuller account of this paper see No. 861a above.]

(901q) [A fuller account of this paper appears in *Ann. Univ. M. Curie-Skłodowska, Sectio DD*, 1951, 6, 97-123. For abstract see *Helm. Abs.*, 20, No. 334b.]

(901r) [For abstract of fuller account of this paper see No. 742a above.]

(901s) The various remedies used in Poland for enterobiasis in children are suitable only for individual cases and are ineffective as mass treatment. R.T.L.

(901t) In 25 out of 60 cases, the vermiform appendix was found to contain up to 20 specimens of *Enterobius vermicularis*. Żuliński considers that their presence merely aggravated the inflammatory process. R.T.L.

(901u) [This paper also appears in *Méd. vét., Varsovie*, 1951, 7, 235-236. For abstract see *Helm. Abs.*, 20, No. 120d.]

(901v) [For abstract of fuller account of this paper see No. 678c above.]

902—PROCEEDINGS OF THE PAKISTAN SCIENCE CONFERENCE, Karachi, 1950.

- a. WAHID, A., 1950.—“Control of liverfluke disease.” [Abstract.] 2nd (1950), Part III, p. 72.
- b. SARWAR, M. M., 1950.—“Bionomics and distribution of the snails of the species *Indoplanorbis exustus* and their role as intermediate hosts of some amphistomes of sheep, goats, cattle and buffaloes in Pak Punjab.” [Abstract.] 2nd (1950), Part III, p. 74.
- c. SARWAR, M. M., 1950.—“Observations on the bionomics of ova of *Fasciola gigantica* in west Pakistan plains.” [Abstract.] 2nd (1950), Part III, p. 74.

(902a) Encouraging results were obtained in small-scale trials with carbon tetrachloride for the control of liver-fluke, one of the most important diseases affecting cattle, buffaloes, sheep and goats in Pakistan. Instead of administering the drug in liquid paraffin which is expensive, “lassi”, which is cheap and obtainable in all villages, was used. [No results are given and there is no indication of the composition of “lassi”.] P.M.B.

(902b) In Pak Punjab *Indoplanorbis exustus* inhabits stagnant pools and salt marshes (but not streams) and acts as the intermediate host of *Cotylophoron cotylophorum*, *Gastrothylax crumenifer*, *Paramphistomum cervi* and *P. explanatum*. Its physical environments contrast with those of *Limnaea acuminata*, the intermediate host of *Fasciola gigantica*. P.M.B.

(902c) Under room conditions some eggs of *Fasciola gigantica* hatched in only 10 days; the normal time was 12 days in May and June and 14 days from July to September. Development within the egg was arrested from the third week in November to the middle of February, which is thus the earliest probable time of infection. Eggs at varying stages, including the embryonated stage, resisted winter conditions for three months with the temperature at freezing point for three days. In water from a stagnant pool development was slow; the eggs were killed if the water became putrid. In 1% ammonium sulphate the ovum developed to the embryo stage but on hatching the miracidium died on contact with the medium. Eggs cultured in 1% copper sulphate showed no sign of development. Malformations (irregular shapes, abnormal sizes, darker colour and infertility) were common in eggs from the gall-bladder as well as in those from faecal cultures. P.M.B.

*903—RÖHRLE, K. H., 1950.—“Untersuchungen über Lungenparasiten bei Wiederkäuern und Schweinen auf Grund von Schlachtbefunden.” Dissertation, Giessen.

*904—SHIKHOBALOVA, N. P., 1950.—[Problems of immunity in helminthiases.] Moscow & Leningrad: Izdatelstvo Akademii Nauk SSSR, 184 pp. [In Russian.]

As stressed in the introduction, this review aims at completing Culbertson's book “Immunity against animal parasites” (1941), translated into Russian by G. S. Markov in 1948, mainly by summarizing the contributions of Soviet helminthologists. Eleven pages of references to Soviet literature on immunity in helminthic diseases are appended. The work is divided in two parts; one is general, relating to classification of immunological phenomena and the other deals with particular helminthiases and stress is laid on helminthiases of domestic animals. A few examples of terminology and approach may be quoted. The term “devastation” as proposed by Skrjabin, means complete eradication of particular helminthic infections. The terms “primary” and “secondary” immunity are ascribed to Moshkovsky (1937). “Barrier immunity” is the phenomenon responsible for encystment of worm larvae in intermediate or unsuitable hosts. The difference between anthelmintic and antitoxic immunity is emphasized. Dartian and Schulz (1949) established that an infection of sheep by *Cystocaulus* results in partial immunity, while vaccination results in encapsulation of 3rd-stage larvae or immature adults in the lungs. Tarasov (1935) swallowed 7 plerocercoids and obtained 7 adults; when this was repeated once 2 adults were obtained from 6 plerocercoids, and when repeated a second time no adults developed out of 7 plerocercoids. The experiments of Vinnitski (1945) on immunity against swine ascaris toxins showed that the introduction of live ascarids into the abdominal cavity of

guinea-pigs produced an immunity which protected them against subsequent introduction of a fatal dose of chopped ascarids. Leikina (1949) observed that a precipitate formed around the natural openings of ascaris larvae (reared in mice) when left for 24 hours in the serum of a man infected with ascaris. Ronjina (1940) showed that coenuriasis of sheep may be diagnosed by intrapalpebral injection of a specific antigen. On pages 136-138, devoted to the complement fixation test in hydatid disease, a number of Soviet and foreign authors are quoted.

G.W.

*905—SKRYABIN, K. I., 1950.—[Trematodes of animals and man. Principles of trematodology. Volume IV.] Moscow & Leningrad: Izdatelstvo Akademii Nauk SSSR, 495 pp. [In Russian.]

*906—SKRYABIN, K. I., PETROV, A. M., ORLOV, I. V., MARKOV, A. A., IAPRUN, A. A. & SALIAEV, V. A., 1950.—[Short course in parasitology of domestic animals.] Moscow: Gos. Izd-vo Selkhoz Lit-ry, 6th edit., 420 pp. [In Russian.]

*907—SONNECK, H., 1950.—"Die Bekämpfung der Lungenwurmkrankheit des Rindes mit Surfen-Jod-Suspension." Dissertation, Giessen.

908—STEINER, G., 1950.—"Progress in plant nematology and its regulatory implications." Proceedings of the 26th Annual Meeting of the Central Plant Board, Kansas City, Missouri, March 21-22, 1950. Addendum, pp. 25a-25d.

Steiner discusses the manifold complexity of the host-parasite relationship of plant parasitic and associated nematodes. He shows how, except in a few rather special cases, it has not been possible to apply Koch's postulates, the mode of attack being very varied, often intermittent and the parasite uncultivable apart from the host. The effect on the host also can be mild or severe according to the nature of the parasite, its location in or on the host and its mode of attack. He discusses the beneficial effects of soil fumigation and the value of plant quarantine regulations.

T.G.

909—STOKES, W. M., 1950.—"Improvements in or relating to the destruction of agricultural pests." Union of South Africa. Patent Application No. 149/50. Complete specification.

The invention provides an improved, simplified and cheap method of destroying pests in agriculture or generally, by subjecting the medium in or on which the pests exist "to an electro-magnetic field produced by any means artificially and preferably under control as to frequency and current flow between electrodes of opposing polarities influential upon that medium". "A pulsating or alternating electric current or field of relatively high frequency and relatively low current density is produced between electrodes effectively applied by a suitable form of electric generator apparatus, the frequency and/or current density being determined by the resistance of the particular organisms to be destroyed or inhibited. The invention extends both to the method above indicated and to the various forms of apparatus which may be devised for carrying the same into effect." The specification then deals more specifically with the application of the method by various types of apparatus especially for the destruction of nematodes in soil and plants and with particular reference to its use as a means of controlling *Heterodera marioni* affecting tobacco and other plants.

R.T.L.

910—SZIDAT, L., 1950.—"Los parásitos del róbalo (*Eleginops maclovinus* Cuv. & Val.)." Congreso Nacional de Pesquerías Marítimas e Industrias Derivadas (1st), Mar del Plata, Buenos Aires, October 24-29, 1949. Vol. II, pp. 235-270. [German summary pp. 266-268.]

Eleginops maclovinus abundant on the Pacific coasts of Argentina and Chile is a fish of considerable commercial value. From the viscera collected from 40 specimens in the waters of Bahía Aguirri in the southern part of Tierra del Fuego 10 helminth species were collected. New forms are described and figured, viz., *Monorcheides poporicii* n.sp., *Postmonorcheides maclovini* n.g., n.sp., *Derogenes parous* n.sp., *Cucullanelus dichelyneformis* n.sp. and *Hypoechinorhynchus megallanicus* n.sp.

R.T.L.

- 911—TRAVASSOS, L., 1950.—“Introdução ao estudo da helmintologia.” Rio de Janeiro : Revistae Brasileira de Biologia, 173 pp.

This succinct introduction to the study of helminthology deals with the position of the helminths in the animal kingdom, their habitats, pathological effects, and general helminth morphology and technology. Separate chapters are devoted to the special morphology, larval development and systematics of each order including one on the Linguatulida. R.T.L.

- *912—U.S.S.R. MINISTRY OF HEALTH, 1950.—[Control of helminthiases in U.S.S.R.] Moscow : Medgiz, 126 pp. [In Russian.]

This is a collection of instructions, orders and rules for all ranks of health institutions and officers engaged in combatting worm infestations in man. Health organizations are charged not only with a duty to reduce but to “liquidate” some of the helminthic diseases. Planned treatment of ascaris, tapeworm and hookworm infection is requested from health units of different ranks. District health organizations must run helminthological divisions with special staff. In cases of widespread helminthiases temporary anthelminthic units have to be organized within the framework of the antimalaria organizations. A special anti-hookworm service is to be organized in the mining industry. There are detailed instructions on the arrangement of helminthological “cabinettes” at “polyclinics”, “dispancers”, “ambulatories” and similar medical institutions (in the “Order N 347/1950”), including the “norms” obligatory for the personnel. Instructions on treatment of the main helminthiases cover the mode of preparation of the patient and the drugs and doses to be used: 3 gm. of carbon tetrachloride is to be prescribed in cases of hookworm disease; hexylresorcinol, flores cinae, Sankafen pills (containing santonin, phenolphthalein and calomel) and oil of chenopodium for cases of ascaridiasis; precipitated sulphur and phenothiazine for cases of oxyuriasis. Instructions on the use of pamphlets, lectures, exhibitions, demonstrations of films and lantern slides are given. Instructions are also given on the use of town refuse in agriculture. For examination of faeces, the smear method and Fülleborn’s method (called elsewhere the Kofoid-Barber method) are advised. Programmes for the teaching of helminthology to doctors, sanitary and laboratory assistants and nurses are appended. A plate compiled from various sources illustrates the ova of the main human helminths. The work concludes with a list of available manuals and teaching aids, including two films, lantern slides, charts and pamphlets. G.W.

- 913—WALKER, J. C., 1950.—“Plant pathology.” New York : McGraw-Hill Book Company, Inc., x+699 pp.

This manual covers comprehensively the basic facts of plant pathology. The chapter “Diseases incited by Nematodes” deals only with *Heterodera marioni*, *H. rostochiensis* and *Ditylenchus dipsaci*. In the chapters on the history of plant pathology, relation of environment to disease development, host-parasite reactions, disease control through exclusion, eradication, protection and host resistance there is no mention of nematode diseases. R.T.L.

- 914—WESENBERG-LUND, E., 1950.—“Parasitisme.” In : “Vort Lands Dyreliv”, edited by F. W. Braestrup, G. Thorson & E. Wesenberg-Lund. Copenhagen : Vol. 3, pp. 236-254.

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NOTE

In all indexes the reference is to the serial numbers and not to the pages. Numbers in **bold type** indicate abstracts, and numbers in Roman type refer to title-only entries.

In the Author Index there are no cross-references to show joint authorship, but authors of joint papers are listed individually. Thus, a paper by "Brown, B., Jones, A. & Smith, J." would have three separate entries, "Brown, B.", "Jones, A.", and "Smith, J."

In the Index of Subjects, alphabetization is under the first word (e.g. "*Acer* sp." before "*Acerina* sp."). Under the generic name of a helminth the following order is observed : papers on the genus as such ; papers on undefined species ; papers on new and defined species, e.g.

Capillaria
 —spp.
 —*aerophila*
 —*amarali* n.sp.

In cross-entries under names of hosts, the specific names of new species of helminths are omitted. *Anthelmintics* are listed under that word, under the name of the parasite or disease, and under the name of the host. *Nematicides* for plant eelworms are listed separately under that word and under the name of the parasite.

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CORRIGENDA

Serial No.	
198a (Abstract)	Line 1 For " <i>Alouatta peniculus</i> " read " <i>Alouatta seniculus</i> "
274i (Abstract)	Line 6 For " <i>Cortacaecum</i> " read " <i>Coitocaecum</i> "
337P (Abstract)	Line 2 For " <i>S. japonicum</i> " read " <i>Schistosoma japonicum</i> " and for " <i>S. douthitti</i> " read " <i>Schistosomatium douthitti</i> "
	Line 5 For " <i>S. mansoni</i> " read " <i>Schistosoma mansoni</i> "
337v (Abstract)	Line 1 For " <i>Gynaecotylea</i> " read " <i>Gynaecotyla</i> "
337z (Abstract)	Line 4 For " <i>Schlach R</i> " read " <i>Scharlach R</i> "
418a (Abstract)	Line 7 For " <i>Dirofilaria</i> " read " <i>Dipetalonema</i> "
420 (Journal title)	For " <i>Universitet</i> " read " <i>Universitetet</i> "

